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ABSTRACT

Intended for vocational rehabilitation facilities, the document presents guidelines for the provision of vocational evaluation services to deaf persons. Explained in Section I is the vocational evaluation process, with chapters covering an introduction and overview, delivery of services to deaf clients, and objectives and process of the vocational evaluation. Section II covers the initial assessment, with chapters on utilization of biographical data, the evaluation interview, and psychometric assessment. Described in Section III is the use of work samples, with chapters covering the use of commercial work samples with hearing impaired clients, and the development of structural work samples in the vocational evaluation of deaf clients. Section IV reviews the use of situational assessment, with chapters on using the rehabilitation workshop for vocational evaluation, the use of vocational training areas, and the job tryout in an actual job setting in the community. Appended material includes summary descriptions of standardized tests used in vocational evaluation; explanations of tests, techniques, and procedures used in the initial assessment phase, sample data forms used in job analysis, guidelines for a model workshop, and a list of sources of additional information and assistance. Provided is a glossary of approximately 90 terms used in vocational evaluation of deaf persons. (1M)

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Deaf Evaluation & Adjustment Feasibility

Guidelines for the Vocational Evaluation of Deaf Clients

Edited By Douglas Watson

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New York University
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Preface

The guidelines which follow are an initial effort to present the practice of vocational evaluation services to deaf persons. This material has been enhanced by the expertise of faculty from the University of Tennessee, Auburn University, and New York University as well as nationally known consultants. The joint endeavor to provide knowledge to those working with deaf clients is a remarkable effort in itself and reflects the strong desire of those in the field to share their expertise with the reader.

The task force has worked diligently and many long hours to develop a meaningful and useful document. In the Department of Health, Education and Welfare, Region IV, we have felt the need of such materials for many years and have looked forward to this publication and the resultant benefits that can be anticipated for deaf persons.

Deaf persons in the past have often found the doors closed to public services and employment due to the lack of adequate or appropriate diagnostic and evaluation services. It is through such service programs described herewith that many deaf persons may discover their latent talents and be given the opportunity to develop them as an expression of their ability to be independent, and a contributing member of society.

The Rehabilitation Act of 1973, as amended places emphasis on service to those with the most severe handicaps. This includes those with the disability of deafness. State vocational rehabilitation agencies and rehabilitation facilities responding to the intent of the Act will find the *Guidelines* a valuable tool in initiating or developing programs to serve deaf people.

HENRY C. WARNER, Jr.
Associate Regional Representative
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These guidelines were prepared by vocational evaluation specialists working with deaf clients in vocational evaluation and adjustment facilities in Region IV. To prepare the document, Task Force members met for two one-week workshops. The ninety day interval between workshops was devoted to the development of guidelines. Writing groups reviewed and critiqued each others' drafts during the workshop meetings, developing the document presented here. All of these contributions made the preparation of this document possible.

A number of leaders in the general field of vocational evaluation provided expert consultation to the Task Force. Each provided invaluable assistance in conceptualizing the evaluation process and interpreting the implications for practice.

The cooperative sponsorship of Auburn University, the University of Tennessee, and Region IV Office of the Rehabilitation Services Administration are particularly appreciated. Without their vigorous leadership and support this document would not have been possible.

The editor particularly appreciates and wishes to personally acknowledge the assistance provided by Paula Marut and Myra Taff-Watson in preparation of the final manuscript. Both provided extraordinary assistance in preparing the technical information listed in the Appendices.

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THE VOCATIONAL EVALUATION PROCESS

Vocational evaluation services for deaf persons should be based on a continuum which facilitates and assists the individual client in his or her vocational decision making. Process considerations in evaluation of deaf persons are viewed as generally similar to those which pertain to other disability groups. However, there are a number of process considerations which are unique to the vocational evaluation of deaf clients. The three chapters in this introductory section identify, define, and otherwise describe the parameters of the vocational evaluation process with deaf persons.

The first chapter highlights basic process considerations presented in the different chapters. Special considerations associated with specific phases of the evaluation process with deaf persons are briefly summarized.

Chapter II proposes a model for the vocational evaluation of deaf persons. The proposed model incorporates a communication based "total adjustment" environment as the basic and necessary parameters within which deaf persons can be evaluated.

The objectives and process of vocational evaluation are defined in Chapter III. This chapter serves to define and structure the process within which the evaluator works.

Chapter 1 INTRODUCTION AND OVERVIEW

Douglas Watson

Deaf persons have demonstrated the capacity to do almost any kind of work for which they qualify by virtue of education, abilities, and experience. No doubt some of the achievements attained by deaf persons are attributable to the considerable investments made by educational and rehabilitation programs devoted to the career preparation of deaf persons. Yet despite the investment in vocational preparation of deaf persons, vocational evaluation and adjustment services receive far less attention than would be justified by their importance to career selection and preparation. Even basic guidelines and instruments for the vocational evaluation of deaf persons have not been developed and made available to assist in the vocational decision-making process.

As a consequence, the vocational evaluation and adjustment process with deaf persons has borrowed most of its tests, procedures, and techniques from general practices. However, little information or knowledge related to use of these procedures with a deaf client population have been forthcoming.

The Region IV Task Force on Vocational Evaluation of Deaf Persons (Task Force) was convened because the gaps in knowledge and practices made the vocational evaluation of deaf persons tenuous at best. Persons providing vocational evaluation and adjustment services too often have had to depend upon intuition, personal experiences, isolated journal articles, or other less than satisfactory sources for guidance in test selection, administration, and interpretation. The Region IV Task Force sought to develop and present principles, procedures, techniques, and other related information which vocational evaluators could utilize to guide their efforts with deaf persons.

Sponsored by the Region IV Office of the Rehabilitation Services Administration, the guidelines developed by the Task Force have general application for use with deaf clients irrespective of ability levels, or geographical location. The combined knowledge and skills of vocational evaluators serving deaf clients, expert consultants from the general field of vocational evaluation, and expert consultants in deafness rehabilitation were productively blended with governmental leadership and support to develop this document.

The guidelines developed by the Task Force appear in the ten chapters and appendices following this introduction. The purpose of this first chapter is to summarize the guidelines and to cast into a more meaningful, concise overview the detailed technical data on specific topics. The reader

is urged to consult individual chapters for expanded discussion of each topical area.

Task Force recommendations and proposals for action are presented at the conclusion of this introductory chapter. Each proposal presented here is directed at specific action needed to improve vocational evaluation services for deaf persons.

Model for the Vocational Evaluation of Deaf Persons

Vocational evaluation services for deaf persons are best provided within a "total adjustment environment." Although the process is comparable to general vocational evaluation practices (e.g., Nadolsky, 1971), special program considerations need to be incorporated for deaf persons. These include communication, knowledge of deafness, social and vocational adjustment services, and the evaluation setting.

Communication comprises the foundation of the evaluation process. Without client-evaluator communication, appropriate vocational assessment and adjustment services are simply not possible. Evaluation programs are urged to either: (1) employ evaluators skilled in manual communication, (2) train their evaluators in manual communication, (3) employ persons skilled in deafness to be trained in evaluation, (4) employ paraprofessionals skilled in manual communication as evaluator aides, and/or (5) use interpreting services.

In addition to communication skills, evaluators serving deaf persons need to acquire or have extensive knowledge of deafness. Understanding the deaf client and the vocational implications presented by deafness precedes effective vocational evaluation and guidance.

Vocational evaluation of deaf persons is best conducted in a rehabilitation evaluation setting which utilizes concrete job tasks within an ongoing social and work adjustment training environment. The concrete, reality-orientation of actual or simulated work tasks with high face validity is the setting of choice, particularly with low achieving deaf clients. This environment also provides maximum opportunity for concurrent, on-going adjustment training activities.

Objectives and Process

The unique communication and knowledge requirements associated with deafness are viewed as requiring modifications in instrumentation, techniques, and methodologies, but not the goals and objectives of vocational evaluation. In rehabilitation evaluation, for example, the goal remains that of assessing and enhancing the client's potentials for satisfactory vocational achievement. The process of ascertaining the client's potentials would include identification of both an individual's assets and specific problems interfering with his/her vocational adjustment.

This information can then be used to ascertain alternative vocational directions the individual might pursue. To assist the client pursue areas of vocational interest, the client and evaluator might develop recommended plans of actions which they will explore in the individual client's evaluation program.

Biographical Data

To understand the individual deaf client in his present situation the evaluator will need to assess those characteristics and life experiences which contribute to his individuality. Seven categories of biographical data associated with (unique to) deafness are important to vocational evaluation of deaf persons. Personal data related to the age at onset, etiology, degree of hearing impairment, early language training, exposure to deaf adult role models, and social experiences are critical dimensions in personal development and adjustment. The presence of other physical or mental disabilities in addition to deafness, possible visual problems, and/or specific otological data on the individual's (medical) hearing status all contribute to an understanding of the deaf client. The kind of educational and communication experiences the individual was exposed to during his/her formative years are of particular importance to evaluation of a deaf person. Another category of information which will be of significance is the client's family and home community attitudes toward and acceptance of the deaf individual.

Evaluators are encouraged to obtain information related to each of these major categories to assist in the evaluation process. The accuracy of information thus obtained should be ascertained through the evaluation interview. Many referral sources are themselves unable to effectively communicate with deaf persons and may provide erroneous information.

The Evaluation Interview

There is not one, but a continuous series of evaluation interviews during the course of most client evaluations. In addition to following up on referral information, the evaluation interviews are designed to assess the individual's communication skills, mental status, interpersonal relationships, and self-concept. Direct interviews as well as behavioral observations of the client in various situations can be used to obtain this initial assessment of the individual client.

Evaluators are encouraged to be alert to the possibility of secondary physical or mental disabilities which often go undiagnosed due to problems general diagnosticians (e.g. medical) experience in communicating with deaf persons. If the deaf client does have disabilities in addition to deafness, the course of the evaluation process often must be drastically altered and/or extended.

Psychometric Assessment

Few psychometric tests have been standardized, normed, and validated with deaf persons. Most of those which do have deaf norms were designed for deaf children and youth. Vocational evaluation practices with adult deaf persons have accordingly depended primarily upon those psychometric tests which minimize verbal instructions and content. A number of these performance-oriented tests have been of demonstrated value in the psychometric assessment of deaf clients and are reviewed here.

Not intended as a course on psychometric theory and test administration, however, the guidelines discuss only general principles of using psychometric tests with deaf persons. General guidelines for pre-assessment preparations, communication and language assessment, test selection, administration, and interpretation are reviewed. The point of reference is that of providing guidelines to the skilled psychometrist in applying his/her skills to the assessment of deaf persons.

Although an individualized assessment program is required for each client, those tests which stress performance, minimize verbal content, and require a minimum of task instruction are preferred for psychometric evaluation of deaf persons. For example, the performance scale of the Weschler Adult Intelligence Scale is generally the test of choice in assessment of a deaf adult's intellectual abilities and potentials. The rationale for this preference is based on the relative ease and simplicity of test administration provided by the performance section of this test and its demonstrated validity in use with deaf adults.

Clinical assessment for organicity, using the Bender Gestalt also requires only relatively straight-forward demonstration and performance procedures. Personality assessment using the House-Tree-Person or Draw-A-Person techniques likewise are concrete performance tasks. However, use of other tests such as the Thematic Apperception Test, requires a much higher level of client-psychometrist communication and should be used only in those instances where ease of communication is assured.

Dexterity tests which require a minimum of instruction and are readily demonstrable might include use of the Purdue Pegboard, Crawford Small Parts, and Stromberg Dexterity tests. Comparable aptitude tests could include the Flanagan Aptitude Classification, Flanagan Industrial Test, GATB, Minnesota Clerical Test, and the Differential Aptitude Test. Although lacking deaf norms, each of the tests are widely and effectively utilized in the vocational evaluation of deaf persons.

Most rehabilitation evaluation programs use the Wide Range Achievement Test (WRAT) as a quick and effective screening test. However, this test is problematic with deaf clients, and is not recommended here. Achievement tests of choice in evaluation of deaf persons would include the Metropolitan and Stanford Achievement Tests (Deaf-form). Both tests

report deaf norms (children & adolescents) and are widely used in achievement testing with deaf persons.

Additional tests and technical considerations related to each are listed in Appendices A and B. The intent of this listing and the narrative text discussions are not to recommend or otherwise endorse the use of specific tests with deaf persons. The objective is rather to provide basic information about the nature and uses of various standardized tests in the vocational evaluation of deaf clients. The Task Force particularly hopes to foster greater caution and discretion in the use of these instruments.

Use of Commerical Work Sample Systems

The increasing number of work sample systems available to evaluators represent a potential significant additional resource for vocational evaluation of deaf persons. These systems consist of structured work tasks, materials, and tools which are identical or similar to those in the actual job or cluster of jobs which they sample. Their potential as a source of occupational information and assessment in use with deaf persons warrants closer attention and exploration.

A detailed analysis of nine major work sample systems which are commercially marketed indicates that each has potential advantages and limitations in use with deaf persons. The scope and variety of work samples included in the various systems provide a wide selection of tasks to choose from. This variety permits discretion in evaluation of the individual deaf person. For example, with the deaf mental retardate, the evaluator may choose to use behavioral rating systems and simple performance tasks with a minimum number of operations involved. Conversely, with the deaf college applicant, the evaluator has available the option of using work samples which sample professional, technical, and/or other higher level occupations.

Each work sample system is designed to assess specific kinds of abilities and skills. The McDonald and WREST systems appear particularly useful to the assessment of general "work personality," or the vocational capacity of low achieving deaf persons. Evaluator rating scales and simple work samples used in these systems permit them to be used with any and all clients.

The H.E.S., TAP, and VALPAR systems are best used in the initial assessment phase of the vocational evaluation process. Each is designed to assess and provide information about client physical capacities, dexterity, psychomotor coordination, perception, and skill discrimination. In that capacity, each could be productively employed in the initial assessment of most all deaf clients.

Singer and SAVE provide excellent occupational information related to a large number of job fields. Appropriately adapted for use with deaf

persons (audio tapes converted to video tape with captions and manual communication instructions) and supplemented by evaluator discussion and occupational guidance, these systems could be effectively utilized with various deaf client groups.

TOWER and JEVS provide both excellent occupational information, and work samples covering a broad range of job fields. Particularly suitable for higher achieving deaf persons (6-7 grade reading), these systems could, with appropriate revisions, be of use with other deaf client groups as well.

An important advantage in use of work samples is the occupational information obtained by the client as s/he works on a task. This first-hand encounter with a sample of an actual job is not available in most standardized tests. The potential benefits of this combined occupational information and exploration process for the deaf client are tremendous.

Several problems will be encountered in use of the standardized work sample systems with deaf persons. A primary problem would be in the instructional procedures. Major revisions in test instructions are indicated for many of the systems. A second problem would be the lack of appropriate norms on use of the systems with deaf clients. Both are technical problems, however, and pose no permanent barrier to modification and adaptation of the work samples for use with deaf persons.

An outstanding feature of most of the work samples in the various systems is that they can be administered to deaf persons with (only) basic academic (3-4 grade) and communication (signs or speech) skills. The flexibility work samples provide in assessment of deaf persons functioning on all levels of the achievement continuum (low achiever through college) more than justifies a substantial investment in their adaptation for use in vocational evaluation of deaf persons.

Development of Structural Work Samples

When appropriately developed, evaluator-constructed tasks, often referred to as structural work samples, can play a significant role in the vocational evaluation of deaf persons. Usually specific to a particular job field, industry, or client group, structural work samples can be used to supplement, complement, or even modify commercial work sample systems used in evaluation.

Modification of existing samples, or development of structural work samples designed for use with deaf persons is an area which merits more attention and investment by deafness rehabilitation. Appropriately structured, standardized, normed, and validated, such work sample tasks could be used with greater confidence and validity than present commercial system samples.

Procedures and techniques related to the nine-step process (e.g., p. 129) of developing work samples will require certain modifications when designed for deaf persons. Primary considerations will include: adopting a visual format, emphasis on performance, standardized manual communication and demonstration instructions, written instructions and vocabulary keyed to a 3rd—4th grade level (if used at all), and including deaf persons representative of various client groups (e.g., low achieving, vocational technical, and college level) in the normative and validation populations.

Using the Rehabilitation Workshop for Vocational Evaluation

In those instances when a vocational direction could not be ascertained by psychometric and work sample evaluation of a client, the rehabilitation evaluation workshop can be used for evaluation. Behavioral observations of the client in a situation which (closely) resembles real work is one of the best evaluation techniques available in this situation. Deaf persons, in particular low achieving and multiply handicapped individuals, often require as many concrete (hands-on) work experiences as possible. The rehabilitation evaluation workshops is one of the best vehicles available to provide clients with an integrated program of actual work experiences, vocational exploration, and work adjustment training simultaneous with evaluation.

More than simply providing a support component, the concrete reality orientation of the workshop permits applied assessment of client skills, traits, interests, and other performance areas in a work setting, as opposed to a testing room. When appropriately structured, this evaluation phase expands upon evaluator and client knowledge related to the individual's vocational abilities and potentials. Increased client adjustment, vocational awareness, and occupational direction are also fostered.

Use of Vocational Training Areas in Evaluation

A technique for situational assessment often overlooked is the use of vocational training areas. To the extent they simulate actual job conditions, vocational training tryouts can provide direction for further exploration, vocational skill training, and/or job placement.

Primary advantages to using this evaluation procedure with deaf persons are the experiential nature and face validity presented by a vocational exploration process which uses the actual tools, materials, and equipment related to various job fields. The cost-effectiveness of this procedure, for the client, are evident in the opportunities available to spend some time in a large number of occupational fields prior to selection of one or the other. A vast amount of occupational information can also be

obtained with minimum client risk (e.g., in contrast to trial employment). The potential of this approach is limited only by the availability and variety of training areas found in a given geographical area.

On the Job Tryout in the Community

Preparations for and actual assessment of a deaf client in an on-the-job tryout, as for other client groups, requires much more than a series of random trial job placements. First, and most important, the client and evaluator should have definite objectives for each on-the-job tryout, and carefully developed plans by which to achieve each mutually developed objective.

Evaluators using this situational assessment technique need to be knowledgeable about the occupational implications of deafness. Employer contacts, development of evaluation arrangements, job analysis, orientation of employees and supervisory personnel to deafness, and orientation of the deaf person to the job situation all require the evaluator to utilize his/her knowledge of deafness in preparing the on-the-job tryout situation. The process would be similar to that used for any client, but the content specific to deafness.

As with all other phases of the evaluation process the deaf individual should be the central figure in on-the-job tryouts. To the extent possible (with the individual client) the evaluation team needs to assist the deaf person explore and assess his/her experiences related to each job tryout. In the final analysis it is the deaf individual who will (and must) arrive at a career decision which best meets his/her needs and interests. The evaluator's responsibility is to assist and facilitate the client's vocational decision-making process. On-the-job tryouts in the community represent the culmination of this process.

Technical considerations

The Appendices were designed to provide technical assistance to those readers who require additional information and/or assistance. Appendix A presents summary descriptions of selected standardized tests often used in vocational evaluation. Tests, techniques, and procedures often used with deaf persons in the initial assessment phase are described in Appendix B.

For those readers who are interested in additional information and/or purchase of various work sample systems, Appendix C lists distributor and estimated purchase costs for each system discussed in these guidelines. Sample job analysis forms are presented in Appendix D to assist those evaluators who are interested in development of their own work sample tasks for deaf clients.

Appendix E describes a model workshop program for use in the vocational evaluation of deaf clients, particularly severely handicapped individuals. Calling for a "total adjustment" realistic work environment, the model described here is the program of choice for those deaf clients with multiple and severe disabilities in addition to deafness.

Presented as a "beginning statement" on the vocational evaluation of deaf persons, it is recognized that many readers will want additional (to these guidelines) information and assistance in their efforts to work with deaf persons. A selected number of (information and assistance) resources in deafness and in the field of vocational evaluation are listed for that purpose in Appendix F. Evaluators are encouraged to contact these resources as the need arises.

Glossary of terms

The Glossary presents definitions of terms commonly used in the respective fields of deafness and vocational evaluation. They are presented as part of these guidelines to assist both, those professionals in deafness and those in vocational evaluation better communicate with, and understand each other. It is hoped that the present Glossary will further encourage and facilitate the emergence of vocational evaluation as a viable discipline within deafness rehabilitation.

Tasks Force Proposals

Presentation of this document is viewed not as an exhaustive set of guidelines for the vocational evaluation of deaf persons, but as a beginning statement. A tenuous statement at that. However, Region IV Task Force members hope, that at a minimum, the generalized parameters presented here have laid the groundwork from which follow-through efforts can build.

The direction(s) evaluators and others may choose to pursue will, of course, depend primarily on the requirements of their particular clients and/or program(s). Our own collective experience both, in working with deaf persons and as members of this Task Force, indicate a number of major program areas which deafness rehabilitation should pursue. These are presented here as recommendations to the field. Each proposal presents a concise statement of the problem, need associated with the problem, and recommendation for action. Rank order or priority is not intended nor implied by the sequence in which proposals are listed. Each proposal merits equal consideration and action.

Proposals

I. Development of Evaluation Tools

The Problem. Few of the available tools in vocational evaluation can be used with confidence in assessment of severely handicapped persons, and most are particularly problematic in evaluation of deaf persons. The unique communication system and cultural characteristics of deaf persons pose very real problems to the assessment process, whether general psychometrics, work sampling, or situational assessment. Because of the lack of standardization on a deaf population and inadequate adaptations, what appears to be valuable tools in the evaluation on some disabled persons become only gross approximations of a deaf person's skills. Often these tools become a deterrent rather than a facilitator of rehabilitation services.

The Need. Available tools in vocational evaluation need to be modified, standardized, normed, and validated for use with deaf persons. When available tools do not meet the needs of deaf persons, new tools should be developed.

Recommendation. (a) That the Rehabilitation Services Administration and other appropriate funding sources provide funds for the modification and/or development of vocational evaluation tools appropriate for use with deaf persons. (b) That University research programs in deafness, and in vocational evaluation combine their respective skills and resources to provide technical leadership and assistance to evaluation programs serving deaf persons (throughout the country) in a cooperative program to modify and standardize selected vocational evaluation tools for use with deaf persons. Priority should be given to modification and standardization of the major work sample systems.

II. A Total Adjustment Environment

The Problem. Experiential, social, communication, and educational deficits which many deaf persons, in particular the severely and multiply handicapped, bring with them to the evaluation process often interferes with and/or even precludes appropriate assessment of vocational potential.

The Need. Social and work adjustment training need to be integral components of the vocational evaluation process with deaf persons. Further, the parameters of this process are directly defined by the presence or absence of effective client-evaluator communication within a "total adjustment" environment. Appropriate evaluation of deaf persons requires the kind of total adjustment process which promotes improved client adjustment simultaneously with assessment of vocational potential.

Recommendation. At a minimum, vocational evaluation programs serving deaf persons need to provide: (1) effective client-evaluation staff communication, (2) social adjustment services, and (3) work adjustment services in an integrated "total adjustment" environment. For severely handicapped deaf persons the total adjustment/environment recommended here is (most often) best obtained in a rehabilitation evaluation and adjustment workshop setting.

III. Social and Work Adjustment Guidelines

The Problem. Social and work adjustment services are of critical importance to the rehabilitation of deaf persons, particularly those with severe and multiple disabilities. Yet despite the importance of these services, very little exists in the way of formal knowledge or guidelines for the social and work adjustment of deaf persons.

The Need. There is a need for development and dissemination of appropriate guidelines on procedures, techniques, and tools which are effective in the social and work adjustment training of deaf persons.

Recommendation. (a) That a national task force be convened to assess the current status of rehabilitation adjustment services for deaf persons, and develop guidelines for practice. (b) That the task force include representatives from the general field of vocational evaluation and adjustment services as well as evaluation and adjustment personnel providing services to deaf persons.

IV. Information Sharing and Dissemination

The Problem. Many professionals in deafness rehabilitation are unaware of techniques and developments in the field of vocational evaluation, and as a result too often provide less than the best possible evaluation services for deaf persons. Conversely, few evaluators in general facilities are knowledgeable about deafness, and are unprepared to effectively utilize their knowledge, skills, and tools with deaf clients. Both situations adversely handicap the deaf person seeking vocational evaluation services.

The Need. A more effective system is needed for the sharing and dissemination of information between personnel in the fields of vocational evaluation and deafness respectively.

Recommendation. (a) That PRWAD and VEWAA explore means by which their respective membership might conduct conjoint workshops, publish information bulletins in their respective journals, and/or encourage dual memberships. (b) That PRWAD establish a Vocational Evaluation Section. (c) That RSA sponsored publications on deafness be forwarded to VEWAA for general distribution to rehabilitation evaluation programs in the various states. (d) That evaluation programs serving deaf persons encourage their staffs to join both, VEWAA and PRWAD.

V. Training in the Vocational Evaluation of Deaf Persons

The Problem. Few vocational evaluators, regardless of whether working with general disability groups or deaf clients, have the combination of skills in both, vocational evaluation and deafness, which is required for effective service to deaf persons. Currently there are no programs preparing persons to evaluate the vocational abilities of deaf persons. As a consequence, deaf persons are too often provided less than the best possible services.

The Need. Training programs which combine expertise in vocational evaluation with expertise in deafness are needed to prepare evaluation personnel skilled in

the vocational evaluation of deaf persons. Both in-service training for practitioners and graduate level degree programs in vocational evaluation of deaf persons are needed.

Recommendation. (a) That major university training programs in the respective fields of vocational evaluation and deafness form a consortium to provide in-service and graduate level training programs in the vocational evaluation of deaf persons. (b) That the consortium of university training programs develop a common curriculum, share hardware, and otherwise cosponsor conferences, workshops, and related training activities. (c) That the current consortium of training programs in deafness (NITC) which includes New York University, Gallaudet, University of Tennessee, University of Arizona, California State University at Northridge, and St. Paul Vocational-Technical Institute assume leadership in the effort to obtain RSA support and funding. Major university programs in vocational evaluation such as, Auburn University, the University of Arizona, and the University of Wisconsin-Stout should be invited to participate.

VI. Establish Evaluation Center in Each State

The Problem. At the current time, only a few states provide appropriate evaluation and adjustment services for deaf residents who need these services. Those few state and/or RSA funded regional evaluation centers which can provide appropriate evaluation and adjustment services to deaf clients, operate at capacity with long waiting lists. This too often results in long waiting periods and/or a large number of deaf persons not receiving needed services.

The Need. General vocational evaluation programs within the various states need to be made aware of the need for vocational evaluation services for deaf persons. Further, rehabilitation, educational, and related human services programs serving deaf persons need to provide leadership and guidance to assist evaluation centers within their state meet this critical need.

Recommendation. (a) That federal and regional RSA offices work in conjunction with the individual State Directors of Vocational Rehabilitation and their respective coordinators of services for deaf persons (SCD) to provide the leadership and know-how to develop at least one vocational evaluation center within each state which can serve deaf persons. (b) That each of the respective state evaluation centers should be adequately staffed to provide intensive (albeit on a small scale) vocational evaluation services for deaf residents. Their basic program(s) should include the professional disciplines of vocational evaluation, social and work adjustment services, psychometrics, audiology, otology, medicine, and remedial education. Each facility should, at a minimum, employ one or more staff person(s) with the prerequisite communication skills as well as familiarity with the psychocultural aspects of hearing impairments.

VII. Knowledge of Deafness and Manual Communication Skills

The Problem. The unique communication skill and knowledge requirements associated with serving deaf clients pose a considerable problem for the evaluation

of deaf clients. Particularly as the ability to communicate with and understand a client precedes evaluating and assisting the individual.

The Need. Evaluation of a deaf client requires that the evaluator not only be skilled in manual communication, but also have extensive experience and knowledge in working with deaf persons.

Recommendation. (a) That all evaluation personnel employed in evaluation of deaf persons have good manual communication skills and an extensive knowledge of deafness. (b) Evaluators lacking one or the other, or both of these prerequisites, should obtain interpreting (manual communication) services, and consultation and training (knowledge) services to assist him/her evaluate the occasional deaf client. (c) Where many deaf clients are involved on an ongoing basis, the evaluator should obtain intensive in-service training as well as use interpreting and consultation services until such a time that s/he has developed their own skills. (d) Lacking access to these support services and lacking the communication and knowledge skills, the evaluator should not accept deaf client(s) for service, but provide referral to a more appropriate evaluation program which can meet these needs.

VIII. Use of Interpreting Services

The Problem. Evaluators too often misdiagnose and/or do not accept a particular deaf client for services because of communication problems. These situations usually occur either because the evaluator does not know manual communication, or in those instances where the evaluator does have these skills, because of severe client communication deficits. In both instances the problem is that of communication.

The Need. When an evaluator's skills in manual communication are inadequate with a particular deaf client, the evaluator needs to obtain the assistance of a skilled interpreter. Further, interpreting services should be a vital part of those evaluation programs which do not have staff with the level of manual communication skills required to communicate effectively with deaf persons participating in evaluation.

Recommendation. (a) That facilities which are serving deaf persons, but lack evaluation staff with the necessary manual communication skills, should obtain the services of a skilled interpreter. Where only an occasional deaf client is involved, interpreting services might best be on a contractual basis. In those programs which have an ongoing deaf client population, it would be advisable to employ an interpreter on staff. (b) That evaluators who are otherwise skilled in manual communication, but have encountered a deaf client with whom they experience communication problems, should consider the use of interpreting services. One possibility, too often overlooked, is the use of local deaf persons who may have the skills necessary for effective communication with the client in question.

IX. Multiply Handicapped Deaf Persons

The Problem. Many multiply handicapped deaf persons present problems of such severity that traditional evaluation models (short-term) are inadequate.

The Need. Practice in deafness rehabilitation indicates that a significant proportion of multiply handicapped deaf persons will require an extended period (months) of evaluation and adjustment services before their vocational potentials can be ascertained.

Recommendations. (a) That the rehabilitation evaluation and adjustment workshop be the setting of choice for evaluation of multiply handicapped deaf persons. (b) That an extended period of evaluation (up to 18 months) services be made available when indicated by the problems and needs of a particular multiply handicapped deaf client.

X. Evaluation Program Accreditation

The Problem. At present there are a number of types of vocational evaluation programs serving deaf persons. No means exist for determining the quality of services that these programs provide. Families, counselors, and other referral sources have no objective means of evaluating the capability of a program to deliver meaningful services to deaf persons.

The Need. A need exists to develop a system for evaluating the quality of vocational evaluation programs serving deaf persons.

Recommendation. (a) That appropriate standards for accreditation of vocational evaluation programs serving deaf persons be developed. (b) That the PRWAD provide the leadership and stimulus to accreditation efforts in conjunction with the International Association of Rehabilitation Facilities (IARF) and/or the Commission on Accreditation of Rehabilitation Facilities (CARF) in developing specific standards for vocational evaluation programs that serve deaf persons. (c) That, if a cooperative effort cannot be developed with IARF and CARF, the PRWAD develop and apply its own accreditation process for vocational evaluation programs that serve deaf persons.

Chapter II

DELIVERY OF VOCATIONAL EVALUATION SERVICES TO DEAF CLIENTS

Douglas Watson

Meaningful and effective delivery of vocational evaluation services to deaf clients requires more than knowledge and skills in rehabilitation evaluation practice. The administrator and evaluator in a facility planning services for deaf clients, particularly severely and multiply handicapped individuals, need to be aware of the unique program needs presented by this client group. The present chapter presents four primary service considerations which the Task Force identified as critical elements in the vocational assessment of deaf persons: (1) the rehabilitation evaluation workshop, (2) communication, (3) knowledge of deafness, and (4) adjustment services. A proposed model for the vocational evaluation of deaf persons which incorporates these service considerations is then presented.

The Rehabilitation Evaluation Workshop

A primary consideration in the vocational evaluation of severely disabled deaf clients is the provision of an evaluation setting conducive to assessment of the client's total level of functioning within a real or simulated work environment. This recommendation is related to the communication and related experiential deprivations presented by many of these individuals. Severity of these deprivations often preclude even attempting to assess client potentials through standardized instruments. Further, even when standardized testing is feasible, the reliability, validity, and standardization of most major tests are based on general population groups. Their application and use with a deaf client group remains problematic at the best.

Research and practice in the vocational evaluation of severely disabled deaf clients indicate that more realistic and valid assessment of client vocational interests, aptitudes, abilities, potentials, and limitations can be obtained where real or simulated work settings are available (Hurwitz, 1971; Lawrence & Vescovi, 1967; Hairston, 1971; and Peterson, 1974). Although limited in the extent to which they can approximate available industry and jobs, the rehabilitation evaluation workshop, particularly those supplementing work sample and psychometric evaluation with actual work, appear to be the most productive setting for evaluation of these clients.

Comprising for many their initial success in achievement, the evaluation workshop setting provides the face validity and concrete "encounter" with the work world needed by these individuals. Adjustment services provided by staff with the necessary communication and knowledge skills can further enhance the therapeutic value of the rehabilitation evaluation workshop setting with its concrete, here-and-now growth-producing environment.

Evaluation programs lacking a workshop setting have generally found it beneficial to utilize training site and internal operation tryout, on-the-job evaluation, and job-tryout approaches. This programming reflects the conviction, born of necessity and client needs, that effective evaluation services for deaf persons require the closest possible approximation of actual work settings.

Educational and vocational-technical programs which frequently use this approach to evaluation of deaf clients are of demonstrated relevance. However, the setting of choice for severely handicapped deaf clients remains the rehabilitation evaluation workshop which provides for maximum assessment and adjustment internally prior to transfer into the community. The most productive programs for these individuals appear to be those which effectively integrate work sample and psychometric evaluation services with ongoing adjustment training within the real or simulated work environments of rehabilitation evaluation workshops.

Communication

Vocational evaluation of deaf clients requires effective communication between the evaluator and client. The Task Force identified communication problems as the primary barrier preventing many otherwise skilled evaluators from serving deaf clients. Further, the problem is not simply of learning basic manual communication, but of developing a level of facility and skills in manual communication which permits ready interaction even with deaf clients who present severe communication problems. Facilities planning to serve deaf clients should be cognizant of this requirement and actively initiate steps to ensure that effective evaluator-client communication is achieved and maintained.

Communication is necessary to the evaluation process, and must be effected if valid assessment is to be achieved. There are, fortunately, five basic alternatives available. First, and most desirable would be the employment of an evaluator skilled in manual communication and experienced in professional evaluation services with deaf clients. A second alternative would be intensive ongoing manual communication training for skilled evaluators. A third alternative might be employment of a professional with the prerequisite manual communication skills who could then be provided ongoing, on-the-job or graduate-level training in vocational

evaluation. The fourth alternative could consist of employing a deaf or hearing paraprofessional with the prerequisite communication skills. A fifth alternative of particular relevance to facilities with only an occasional deaf client, or a client requiring manual communication skills beyond the capacity of the facility evaluator, could be of use outside interpreting services.

Knowledge of Deafness

In addition to skills in manual communications, vocational evaluation of deaf clients requires an extensive knowledge of deafness. Understanding the client usually precedes assisting him. This knowledge is particularly critical in evaluation of an individual's interests, abilities, life experiences, and aspirations toward determining his vocational potentials.

The vocational evaluator planning to work with deaf persons needs to become thoroughly familiar with the life experiences (history, achievements, language, social, psychological, vocational, cultural) and achievements of the deaf community and its various sub-groups such as the severely disabled. The limited communication skill (speech), borderline WAIS IQ, inflated Rorschach scores, and poor socialization skills of a given deaf client, for example, may result in the inexperienced evaluator classifying the client as non-feasible. A more experienced evaluator knowledgeable in deafness, might in contrast, ascertain the same client presents excellent potential for post-secondary training toward eventual rehabilitation as a lab technician. The fact this too often occurs underscores the need for vocational evaluators serving deaf clients to acquire the broadest possible knowledge base in deafness.

Vocational evaluation of any group of clients requires for that matter, a broad, comprehensive knowledge and understanding of human behavior dynamics and individual differences. Deafness, however, imposes additional considerations. The client-evaluator interaction matrix will require the evaluator to possess not only a broad general knowledge base, but also knowledge of how deafness influences and interacts with those universal human dynamics.

Graduate and in-service training in deafness rehabilitation are readily available throughout the country. Appendix F lists several (see also, Lloyd & Watson, 1976) resources which facilities planning to serve deaf clients can contact to obtain training and/or consultation services prior to, or concurrent with service delivery. Individual deafness specialists (RCD) or rehabilitation coordinators (SCD) within the various States also comprise an excellent resource for on-going program and staff consultation.

Affiliation with the Professional Rehabilitation Workers with the Adult Deaf (PRWAD), or related consumer and professional organizations in deafness is another viable resource. The local, state, and national conven-

tions and publications of these organizations provide ongoing sources of information.

Regardless of the means employed for knowledge acquisition, the evaluator planning to serve deaf clients should seek to develop and constantly expand his knowledge and understanding of deafness and its ramifications. The acquisition of this knowledge will be directly reflected in the concurrent increasing quality of his evaluation services for deaf clients.

Adjustment Services

Practice in deafness rehabilitation reveals that evaluation services and vocational skill training are not the primary problems in service to severely disabled deaf clients. The primary problem in rehabilitation of these clients, appears to be the deficient social and emotional functioning that stultifies achievement and precludes occupational attainment (DiFrancesca & Hurwitz, 1969; Lawrence & Vescovi, 1967; Watson, 1971; and Rice, 1973).

Implications for vocational evaluation are quite clear: deficiencies in the critical competency areas of personal-social adjustment will frequently interfere with and even preclude valid vocational evaluation in the traditional sense. Instead, vocational evaluation programming for these individuals present a requirement for concurrent social and work adjustment services. The severity and pervasiveness of these problems and their associated service needs further indicate that more than formalized ancillary adjustment programs, the need is for a "total adjustment environment."

The adjustment program proposed here is one which integrates social and work adjustment into the evaluation setting and process. Best provided in a rehabilitation evaluation workshop setting, adjustment services should be built into the system to concurrently foster and assess client adjustment. Initial vocational evaluation services, for example, may indicate no definable vocational potential, while concurrent adjustment services (and assessment) may indicate definite behavioral changes. The process of evaluation recommended may then be viewed as one which fosters increased vocational awareness and narrowing of choice concurrent with ongoing adjustment services designed to promote an increase in feasibility and employability.

All major evaluation programs in deafness rehabilitation currently provide for the integration of social and work adjustment services into the evaluation process. The Task Force further recommends that other facilities and evaluators planning to serve severely disabled deaf clients should incorporate such ongoing *social* and *work* adjustment services into their evaluation program. The key concept here is that these services be integrated into the larger program, not provided as separate, ancillary services.

Model for Vocational Evaluation of Deaf Persons

The Task Force recommended that the evaluation process with deaf clients should generally follow the sequential patterns best described by Nadolsky (1971) which conceptualizes vocational assessment as a continuous process leading to placement of the individual client in a suitable occupation. However, the special program considerations associated with evaluation of deaf persons (e.g., the evaluation setting, communication, knowledge of deafness, and adjustment services) present a number of considerations not inherent in the general model. To incorporate these special program considerations, the Task Force recommended that implicit assumptions in the general model of evaluation must be made explicit in the vocational evaluation of deaf clients. The Task Force modified the Nadolsky (1971) model to incorporate and make explicit (1) a communication base, (2) social adjustment services, and (3) work adjustment services. This "total adjustment" environment is seen as the necessary parameters within which satisfactory vocational assessment of deaf persons can obtain. Figure 1 presents Nadolsky's (1971) model of vocational evaluation (solid pyramid) as modified by the Task Force (broken line pyramid) for evaluation of deaf persons.

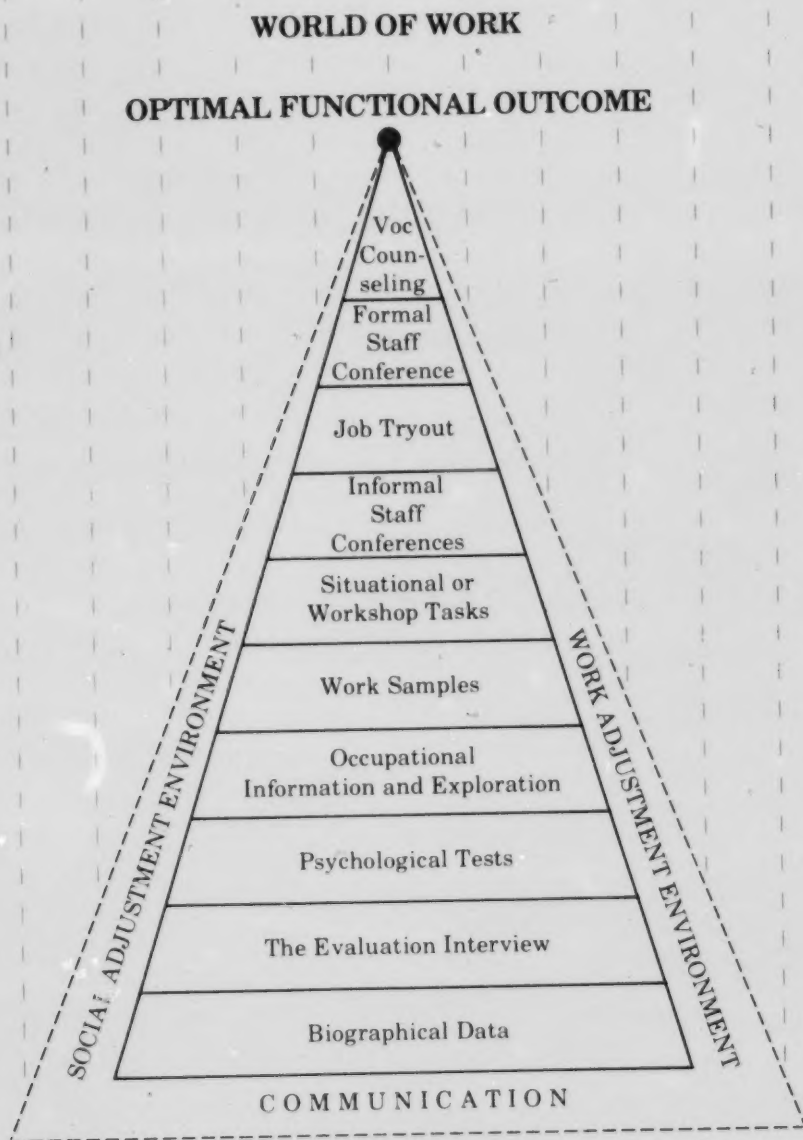
The basis for this modification is inherent in the profound effects deafness has on the deaf individual's ability to transact with his social, work, and communication environments. In effect, assumptions about the evaluation setting and client-environmental transactions which are normally assumed, do not hold when the client is a deaf individual. These fundamental differences must be accommodated in the vocational evaluation of deaf clients.

The pyramid shape of Figure 1 indicates that the goal of evaluation is to determine outcome for the client, whether employment or improved adjustment. A logical narrowing of vocational choice occurs as the evaluation process contributes to increased client awareness of his actual capacity to participate in the world of work (Nadolsky, 1971). Each phase of the process is conceptualized as using various tools and techniques to facilitate and otherwise enhance client movement toward occupational determination.

Task Force modifications in the model (broken-line pyramid) indicates the basic and necessary adjustment environment which must be present in services to deaf persons. Effective client-evaluator communication comprise the foundations. Lacking communication, the "bottom" literally "falls out" and appropriate evaluation services are not obtainable.

Provided with a sound communication foundation, effective social and work adjustment services can be incorporated to facilitate client adjustment. More than ancillary services, the objective is to provide the total adjustment environment within which deaf clients can best be evaluated

Figure 1
Model for Vocational Evaluation of
Severely Disabled Deaf Persons



and rehabilitated. Improved client adjustment is seen as directly related to increased client vocational awareness and capacity to participate in the world of work. This process is conceptualized in Figure 1 as moving up the social and work adjustment scale toward exit from the evaluation process to a level commensurate with the individual's optimal functional outcome.

Subsequent chapters of these guidelines, although presenting specific evaluation techniques and principles for selected phases of the vocational evaluation process, are predicated upon the "total adjustment environment" portrayed in Figure 1. Optimal vocational evaluation services for deaf clients would suggest that every test, clinical observation, behavioral rating, situational or job try-out results, should ideally evolve within the parameters of the proposed model. To the extent a program lacks these critical elements, the Task Force encourages the facility administration and/or evaluator to actively pursue their development.

Chapter III

VOCATIONAL EVALUATION OF DEAF CLIENTS: OBJECTIVES AND PROCESS

Robert H. Couch and E. Ray Freeman

Vocational Evaluation has been defined in innumerable ways. The Tenth Institute on Rehabilitation Services (1972) stated:

Vocational (work) evaluation is a comprehensive process that systematically utilizes work, real or simulated, as the focal point for assessment and vocational exploration, the purpose of which is to assist individuals in vocational development. Vocational (work) evaluation incorporates medical, psychological, social, vocational, educational, cultural, and economic data in the attainment of the goals of the evaluation process.

To Nadolsky (1971),

Vocational evaluation is a process designed to assess and predict work behavior and vocational potential, primarily through the application of practical, reality-based assessment techniques and procedures.

The Glossary Committee of the Vocational Evaluation and Work Adjustment Association Project (1975) defines evaluation in another way:

Vocational evaluation is the (1) process of observing behaviors and interpreting them against some criterion; (2) process of assessing what an individual does and how well he does it, i.e., his 'calling' (grounded in interests, abilities, needs and opportunities) against some criterion; (3) process of obtaining and utilizing information pertinent to an individual to assist him in arriving at a vocational objectives.

The careful reader may be able to discern the approximate meaning of vocational evaluation from these various definitions. The favorite definition of the authors was furnished by a student who, after reviewing various definitions, suggested that "Vocational Evaluation is essentially a clinical process of getting to know another person." Another student wisely added "and in which the client comes to know himself."

EVALUATION OF DEAF CLIENTS

The unique communication and knowledge requirements associated with deafness require modifications in instrumentation, techniques, and methodologies, but the goals and objectives of vocational evaluation remain the same as with other client groups. Examination of the stated objectives of evaluation may present a clearer picture of what evaluation of deaf clients is and is not. These objectives will essentially dictate what the process of evaluation entails with a deaf client population. The following objectives should be achieved if evaluation is successfully completed.

Objectives of Evaluation

I. Determining Potential for Rehabilitation

This somewhat abstract objective must be kept flexible and must be restated in terms of the mission of the particular institution or facility completing the evaluation. In terms of referrals from Vocational Rehabilitation Agencies, the objective is an important one. Many deaf clients presenting multiple and severe handicaps will require an extended combination of evaluation and adjustment services before even tentative optimal outcomes can be determined. The Task Force strongly encourages rehabilitation administrators, counselors, and evaluators to utilize existing regulations providing for extended 18 months evaluation in services for deaf clients. If the professional evaluator exhausts his resources and there appears to be no reasonable expectation for eventual employment for an individual, this should be carefully documented and reported to the rehabilitation agency, specifying maximum potential and non-vocational alternatives. In school and institutional settings, this objective becomes less important, being replaced by the objective of determining potential for growth and improved functioning. The objective, however, is a basic, yet difficult one in which a determination may need to be made as to who should receive the benefit of limited treatment, training, or educational resources. Although fewer and fewer are determined as not having potential for rehabilitation, these few and their families need assistance in determining alternatives, i.e., institutional consideration, child welfare, financial security, long range planning, etc.

II. Identifying Assets of an Individual

Too often, evaluators are overwhelmed by the myriad problems of severely handicapped deaf individuals and fail to search for client assets which may prove helpful in building a total rehabilitation program. The careful evaluator may need to be creative in discovering these assets from interpersonal contact, from client self-disclosure and from the evaluation data generated. Assets may stem from such data as age and education, communication skills, observed or tested special aptitudes, general health, interpersonal skills, attention span, and work habits. Constant awareness of this objective should lead to an innumerable listing of client assets. The evaluator who is unable to list at least five major assets which could be developed further in the deaf client's total rehabilitation program should review his findings and/or do further evaluation.

III. Identifying Specific Problems Interfering with Client Rehabilitation

Upon beginning an evaluation, the evaluator might ask simply, "Why is this client unable to function in our society now?" Careful pinpointing of

specific problems interfering with the client's vocational, social, and personal functioning often point to evident solutions. If the problem is not amenable to change, then means to minimize or circumvent the problem becomes a primary adjustment service objective. The more specifically the problem is stated, in measurable terms, the more easily an adjustment modality can be found. Therefore, the evaluator will need to carefully specify the problem in terms of measurable problem behaviors rather than in broad generalities. Contrast the problem "poor work habits" with the more specifically stated "20 or more minutes late for work 50% of the time during the four week evaluation period." Both are certainly problems, but the latter is measurable; and success or progress in solving the problem will be evident.

Specifying the problem in this way is more time consuming for the evaluator, but attaining this evaluation objective is not complete until major problems are identified specifically in terms of measurable behaviors. Admittedly, this is not always easy for an evaluator who may have been content to suggest such intangible and evasive problems in general terms as "lack of motivation, poor social adjustment, etc." To check the successful completion of this evaluation objective, one asks oneself constantly "what is the basic problem; and if this is a problem, how much of it is there?" If this cannot be done, then either the client has no problems interfering with his functioning or this evaluation objective has not been successfully attained. As a start, the evaluator may want to list specifically five major problems and attempt to specify numerically the degree of the problem, i.e., "absent 30% of time; on assigned work task only 35 minutes in one hour; 100 remarks to fellow workers in 30 minutes; 10% of assembled items rejected; reading level (W.R.A.T.) 3.5; three complaints from other clients regarding body odor, etc." Once problem behaviors are stated in this way, the adjustment plan can be geared specifically to solving those problems.

IV. Ascertaining a Vocational Direction

Unfortunately, there are many who perceive this as the only objective of vocational evaluation. No one would attempt to determine an individual's vocational aptitude while that individual was undergoing surgery or in the thralls of a seizure, or at age two. Too often, however, an attempt is made to determine a vocational objective for an individual when monumental problems obscure the potential of the client. Therefore, when beginning to ascertain a vocational direction for a deaf client, one should check to assure that other evaluation findings will not interfere with client readiness for this phase of evaluation. For instance, if no potential for rehabilitation is apparent, then seeking a vocational direction is a futile effort. Instead, if identified problems are of a nature or severity as to

preclude a valid search for a vocational direction, then personal and/or work adjustment services may be indicated until such time that problems are under control.

Once the client is deemed ready for the vocational direction objective, then the evaluator may choose from a host of available methods, tools, and techniques to assist both he and the client in searching for a suitable vocational direction. The best source of information in this pursuit is the deaf client himself; therefore, the evaluator should involve the client in achieving this objective. The process is essentially a search for available, feasible vocational possibilities compatible with the client's interests, aptitudes and environmental realities.

When the search for a vocational direction reaches a point that recommendations can be made, then the client and the evaluator should be able to outline multi-level options. At the broadest level, one or two job categories might be defined (Dictionary of Occupational Titles). One or more likely occupational groups within each category should be itemized. Finally, all evaluation data considered, a primary recommendation for employment or vocational training should be stated; and several secondary alternatives offered. Once these are stated, this objective is fulfilled. If subsequent events, problem solutions, additional education, experiences, etc. occur, these recommendations may become obsolete or inoperable; and the process should be repeated for possible new directions. The latter process is of particular relevance to rehabilitation efforts with deaf clients as significant growth is often experienced on the job. Long-range, follow along services are also recommended to assist clients in achieving their potential.

V. Developing a Recommended Plan of Action

Once the other objectives of evaluation are met, a recommended plan of action can be developed. In the event that no potential for rehabilitation is found, then recommendations for alternate courses of action should be given. If problems prevent seeking a vocational direction, then recommendations for solution of these problems are indicated via an adjustment services program.

In making recommendations, all available evaluation data should be considered. Recommendations should inculcate the assets of the deaf client in a positive manner designed to enhance his rehabilitation prospects. Each specified problem should be addressed, and possible solutions identified. Recommendations should flow logically from the analysis and synthesis of the evaluation data and must include the client's aspirations, hopes, and other inputs. If recommendations are client-centered and reality based, they will meet with greater acceptance and have a higher probability of being implemented.

Evaluation Process

In the pursuit of these defined objectives, the evaluator will be guided by his own theoretical orientation, his particular facility setting, available and preferred techniques, and his own educational and experiential background (Couch 1973, Nadolsky, 1971). The less experienced and unskilled evaluator finds comfort in structured techniques such as psychometric tests and packaged evaluation systems purporting to answer the basic questions for him. The professionally trained evaluator is less dependent upon any one technique or system and focuses upon achieving the objective in a great variety of ways. He will utilize most, if not all, available technology but is fully aware of limitations of currently available tools in the field for evaluation of deaf clients. The client-evaluator relationship, communication skills, the evaluator's experience in working with deaf clients, his skills in collecting evaluation data, and subsequently his analysis and synthesizes of the evaluation data are the essential elements in the evaluation process.

A more detailed description of each phase of the vocational evaluation process and its application with deaf clients follows. Each chapter presents tests, techniques, and procedures specific to various phases of the evaluation process as conceptualized by the Task Force (fig. 1) in Chapter 2.

INITIAL ASSESSMENT IN THE VOCATIONAL EVALUATION PROCESS

Vocational evaluators invariably encounter the greatest difficulty in completing the initial assessment phase of the vocational evaluation process with deaf clients. It is in this phase of the evaluation process that the unique ramifications of deafness are most profoundly evident. Questions related to the deaf client's personality dynamics, psychological adjustment, and intellectual abilities, for example, often go unanswered due to communication problems and lack of valid assessment instruments. Compared with subsequent phases of the evaluation process (e.g., work samples, situational tasks, or job-tryouts), which are predominantly behavioral and therefore observable, the initial assessment phase requires extensive communication with the deaf client and knowledge about the unique manifestations of deafness.

Special considerations which affect each phase of the initial vocational evaluation process with deaf clients are presented in this section. Guidelines are proposed to orient and guide the evaluator in each of the initial three assessment phases: utilization of biographical data; the evaluation interview; and psychological testing.

The chapter on utilization of biographical data discusses the rehabilitation implications presented by the deaf client's biographical profile (e.g.,

age at onset of deafness, etiology, and degree of hearing impairment; developmental history; early communication; and educational training). These data, of obvious importance in determining the client's vocational potential, often are overlooked or ignored even by the evaluator skilled in service to deaf clients. In addition to utilization of general biographical data such as age, race, sex, socio-economic and associated variables, the Task Force recommends that evaluators working with deaf clients consider those special biographical variables related to deafness.

Chapter 5 presents special problems and considerations the evaluator may encounter in the evaluation interview with a deaf client. Recommended interview procedures and techniques are presented. Not as an exhaustive set of guidelines, but as the minimum conditions for an effective evaluation interview with a deaf client. The client-evaluator relationship established in this initial interview is crucial to initiating client participation in shaping his vocational future.

Principles, procedures, techniques, and tests for standardized testing of deaf clients are presented in Chapter 6. The intent of the Task Force was to present basic guidelines for psychometric practices in the vocational evaluation of deaf individuals. Guidelines presented in this chapter consist of general principles which are applicable with the college-bound as well as the low-achieving deaf client. Although the focus is on clients between the ages of 16-65, principles discussed encompass all age levels.

Chapter IV UTILIZATION OF BIOGRAPHICAL DATA

Douglas Watson

The first phase in initial assessment of deaf clients is the utilization of biographical data. This phase would include understanding of the individual in his present situation by assessing the characteristics and life experiences which contribute to his individuality. Assessment of the individual's biographical characteristics provides the evaluator with a global profile from which hypotheses about adjustment, skills, and abilities can be generated (Nadolsky, 1971).

Vocational evaluators reviewing referral information on a deaf client will need to consider a number of unique biographical variables associated with deafness. The present chapter presents seven major categories of biographical information which are critical to initial assessment of deaf clients. Categories listed here are not all inclusive and assume the prior collection of general information routinely collected on all clients (e.g., race, sex, socio-economic background and related data).

Personal Data

Client age at onset of deafness presents profound implications for communication, language, socialization, educational, vocational and related adjustment. Consider, for example, client A who was deaf at birth, and enters evaluation at age 19. His life experiences, adjustment, and skills will differ significantly from Client B, age 19 also, who lost his hearing at age ten due to an accident. Client C, also age 19 at program entry, lost his hearing five months ago due to spinal meningitis, and presents an altogether different set of assets, limitations, and potentials from Clients A and B. Even the casual reader can readily ascertain that significant differences will exist among these otherwise comparable deaf clients. Although generalizations are grossly misleading, general expectations would be that the earlier the age at onset of deafness the more pronounced language, communication, educational and related experiential deprivations will be. Individual differences are the general rule, however. The evaluator will need to integrate this data with other available information to ascertain its implications for the individual client's vocational potentials.

Due to the lack of appropriate communication and language environments in infancy many deaf persons do not acquire formal communication systems until age five, six, or older, compounding and retarding subsequent adjustment. Others, in contrast may have residual hearing which

permitted normal approximations. Still other clients may have been exposed to manual communication from birth, facilitating development and adjustment. These variations in communication development are usually reflected in the individual's subsequent adjustment. A significant proportion of low-achieving deaf clients for example, are individuals who experienced severe sensory deprivation, including a total absence of a formal communication system in early childhood. Another consideration is whether the clients' parents, siblings, or relatives are also deaf. Deaf children of deaf parents often have the advantage of formal communication—language training from birth. The availability of deaf adult role models may have provided the client access to more information and education in the home, and reduced parental conflict over having a deaf child. Research in deaf education indicates deaf children of deaf parents generally have a better prognosis for academic achievement and personal-social adjustment than their deaf peers with hearing parents who do not use manual communication (Mindel & Vernon, 1971).

Client participation within school activities (adolescent client) or deaf community organizations (adults) can provide the evaluator with an indication of the client's personal-social-communication adjustment and skills. Client integration into his peer community usually provides a more realistic measure of personal adjustment, for example, than the extent of socialization with non-deaf client peers, although both measures are certainly relevant adjustment indicators.

Medical Information

The rubella epidemic of the 1960's, combined with advances in medical science, and improved identification procedures have produced a significant increase in the proportion of the deaf population known to have severe multiple disabilities. The rubella epidemic, for example, resulted in a large number of deaf children (now entering the rehabilitation system) with various combinations of deafness and other disabilities (e.g., mental retardation, visual defects, physical impairments, central nervous systems dysfunction, and heart problems). Advances in medical science, on the other hand, have resulted in many individuals surviving previously fatal diseases, illness, or accidents. The consequence, for many has been severe hearing impairments accompanied by other disabilities. The severity of these multiple disabilities often render moot the question of which is secondary and/or primary. The constant in this equation is the tremendous challenge these individuals present for rehabilitation.

Identification and proper diagnosis precedes assisting these individuals, underscoring the importance of medical information in the evaluation of deaf clients. Evaluators working with deaf clients need to carefully survey the medical information forwarded by the referral agent. If not available, a

comprehensive medical examination can be requested prior to client intake.

Ophthalmological and Optometric Information

Due to his dependence on vision for communication purposes, appropriate medical assessment of the deaf client's vision is critical. Ophthalmological examinations are not routinely included by many state rehabilitation agencies in their medical assessments, which may require the evaluator to request this service prior to intake. Comprehensive ophthalmological assessments including visual field tests are further indicated by the increased incidence of Ushers Syndrome, retinitis pigmentosa, and other related causes of progressive blindness within the deaf population.

Audiological and Otological Information

We are concerned not only with when the client experienced his hearing impairment, but also the cause, severity and nature of the loss. This information addresses the questions of available functional or residual hearing, possible benefit from amplification, surgically correctable (conductive) loss or incorrectable (sensori-neural) loss, and noise tolerance (which may preclude consideration for many occupations). For example, a particular client, although severely hearing impaired for many years, may as a result of recent stapedectomy surgery now hear within the normal range and perhaps require services to facilitate adjustment.

Educational Information

Approximately one-third of the adult deaf population have been found to have reading comprehension achievement scores below the third grade level. Sixty percent have reading comprehension scores below the fifth grade and only twenty percent read at or above a seventh grade level. The low academic achievement scores often presented by deaf clients do not necessarily indicate intellectual deficits, learning disorders, or other educational problems usually associated with low achievement. In fact, many intelligent, successfully employed, and otherwise capable deaf adults read at or below a third grade level.

Research in deaf education and rehabilitation indicate that this contradiction between ability and achievement is usually a consequence of early profound deafness which interferes with language-communication development during the formative years. However, a great majority of prelingual low achieving deaf adults do make satisfactory life and vocational adjustment. Linguistic achievement is but one of many indicators of an individual's rehabilitation potential. Evaluators working with deaf clients

need to be cognizant of the distinction between linguistic skills and learning potential. Otherwise they may inadvertently underestimate the low achieving deaf client's vocational rehabilitation potentials.

A second major variable, which is interrelated with communication skills, are the educational practices of the school which the client attended. If the client comes from a state residential school, the probability is s/he will have spent a great proportion of his/her formative years semi-isolated from on-going community and family life. In addition, s/he will probably have been instructed, and is now most comfortable communicating through sign language.

On the positive side, the "total communication" environment provided by most state residential schools promotes a degree of interpersonal communication and socialization (with staff and peers) not readily available in the general community. On the negative side, the semi-isolation from community and family (in attending residential school) may be detrimental to some clients' post-school adjustment. Denied the benefits of daily information assimilation and communication-social transactions available in the family and larger community, the client may have difficulties integrating into the general community.

In contrast to the residential school graduate, the client who attended public day school (special or integrated class) will have physically remained with his/her family within the larger community, but perhaps experienced communication-social isolation. These differential life experiences represent quite different implications for rehabilitation programming, particularly in respect to psycho-social adjustment.

Communication Skills

Client communication skills as assessed by the referring counselor, speech therapist, school records, or other informants familiar with the client should be requested. Nine areas of assessment are indicated: (1) hearing loss, (2) speech, (3) speechreading, (4) expressive signing, (5) receptive signing, (6) expressive fingerspelling, (7) receptive fingerspelling, (8) writing, (9) reading.

The relationship between this information and vocational evaluation is readily evident. Evaluators lacking manual communication skills may, for example, feel more comfortable in accepting for referral only those clients with well developed compositional, speechreading and/or speech skills. Similar principles apply to employment as many employers are more receptive to employing deaf persons with writing, speechreading and/or speech skills. Other clients in contrast, while lacking those particular skills, may be proficient in manual communication, indicating a well developed communication-language system which may be indicative of excellent adjustment and vocational potential.

Implications for treatment are also evident. Clients with minimal communication skills may require adjustment services and communication skill training concurrent with or prior to vocational evaluation services. The extent to which a client may benefit from formal vocational skill training, counseling services, and other rehabilitation services is often directly related to his/her communication skills (and modalities).

Deaf clients with very poor manual communication skills would encounter problems, for example, in using an interpreter in an ongoing training situation. In contrast, the evaluator who lacks manual communication skills, but routinely utilizes an interpreter would find it feasible to work with deaf clients possessing fair to excellent manual communication skills. The fair speechreader with no sign skills, however, would not be able to readily utilize interpreting resources in vocational skill training.

Narrative Referral Information

Information gained from the referral agents' experiences with the client might provide additional data of significance. Client adjustment to and acceptance of deafness, or the attitude of family and community toward the client can further enhance understanding of the individual. Obtaining a dynamic profile of the individual's functional skills and adjustment within the general community provides the basis for more meaningful integration of client biographical information.

Precautions

Evaluators reviewing biographical information on deaf clients need to exercise caution to avoid labels, generalizations, and/or misinterpretations. Information obtained in referral can often be grossly misleading when supplied by person(s) unfamiliar with the disability of deafness and its ramifications. Further, many deaf clients who appear to be "basket cases" on paper, are in fact individuals with excellent rehabilitation potential.

Synthesis

In summary, this chapter has touched upon seven categories of biographical information which present unique considerations for the vocational evaluation of deaf clients. Examples were cited to describe manifestations of these biographical characteristics in the adjustment and vocational potential of individual deaf clients. The intent was not to exhaust all possible categories or manifestations, but to sensitize the evaluator to their presence and potential implications.

Effective and meaningful vocational evaluation of a deaf client is not obtainable without assessment of the biographical variables described here. Supplemented by other more general information, this initial survey of available data can often provide the evaluator with recommendations for immediate provision of specific services (e.g. communication therapy). Or point out the need for additional (e.g. neurological examination, or an audiological assessment) information prior to client intake.

Initial assessment of the deaf individual's vocational potentials—through collection and analysis of client biographical data—represents the first step toward understanding the individual. The extent to which we do in fact obtain an understanding of the individual in his/her present situation is determined by the quantity, quality, and validity of the biographical information we obtain.

Evaluation cannot effectively proceed until this initial understanding is obtained. When available, the evaluator is prepared to proceed into the second phase, the evaluation interview.

Chapter V

THE EVALUATION INTERVIEW

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*A fundamental dilemma confronting the evaluator in services for deaf clients should be made clear: The basic process of interviewing is that of communication between the client and evaluator. Yet, the prime disability presented by the deaf client is often precisely that of communication. Therefore, the basic rule underlying the entire evaluation process emerges at the interview stage, and cannot be stated strongly enough: **The evaluator working with a deaf client must be thoroughly skilled in both expressive and receptive manual communication, or the evaluator must have available to him an interpreter thoroughly skilled in both expressive and receptive manual communication to facilitate the process. Otherwise, the interview and subsequent evaluation process will be significantly and detrimentally affected.***

This principle of communication must be understood and established in vocational evaluation of deaf clients. Discussion of guidelines for the evaluation interview with deaf clients which follows assumes effective communication is obtained.

First, the basic goal of the interview relative to the information desired and obtained is the same for the deaf client as for clients of other disability groups. But, as has been stated above, the means and processes by which information is obtained in the interview are different for deaf clients (e.g. use of manual communication, interpreting services).

Second, rapport with the client must be established. As would be expected, rapport with a deaf client is greatly facilitated if genuine and comfortable communication is established at the onset—the client feels comfortable in an environment incorporating his language system, and perceives that the evaluator understands him.

Third, the interview should be quite informal with very little structure, except in terms of general desired directions. It must be emphasized that this interview in the evaluation process is not an in-depth counseling sessions.

Fourth, the extent and duration of the interview process should be flexible. For example, quite often with deaf clients, the interviewer (even when skilled in manual communication) must repeat questions or change the way some questions are presented to the client before the client understands what information is desired and is able to respond.

Fifth, although the interview is informal and unstructured, it should focus upon specific areas or avenues of information. These areas are the subject of the material that follows.

Areas Interview Should Explore

The following is a brief listing and description of some general areas of information the interview should explore with a deaf client.

Follow-up, confirmation, and elaboration of demographic data. The interview should confirm and elaborate upon any previous personal data obtained. Here the evaluator should explore the client's educational background, interests, previous vocational training (if any), and prior work history.

Ascertain Communicative skills. This may be done by observation during the course of the interview. Areas that should be focused upon are the client's willingness and ability to use understandable speech, speech-reading skills (if possible and without frustrating the client), skills with manual communication (signs and fingerspelling), and ability to express himself clearly in the communication mode of his choice.

Indication of the client's mental status. Admittedly a broad and difficult area, useful information may be gained by exploring the client's orientation to people, places, and time; knowledge of own background, family, place of residence; and knowledge of home community area features and resources.

Interpersonal relationships. In a general way, the interview should explore such areas as the client's relationship with parents and immediate family, associations (or lack of them) with both the deaf and hearing community, participation (if any) in deaf organizations, and the nature of his/her relationship with peers (deaf and hearing).

Self-concept. This area is significant in terms of the subsequent evaluation process and its goal. The interview should explore such areas as the client's acceptance of and attitudes toward his handicap(s); the client's aspirations and goals; the client's self-perception, (e.g. as a deaf person, or as a hard-of-hearing person); and a determination of how the client functions socially.

The evaluator must have the kind of information described above in order to make appropriate plans and recommendations for action. In exploring each area, the evaluator must remember the informal and unstructured nature of the interview. It is recommended that the evaluator explore these areas in a random, indirect way, and only after rapport with the client has been established.

Observed Behavior

A process that should also occur during the evaluation interview is observation of the client's behavior. A clinical process, behavioral observation occurs naturally on the part of the evaluator and, if directed, can serve as an important source of information.

Initially, first contact observations can be useful and are most often quite objective. The evaluator can quickly observe behaviors such as the client's personal appearance and hygiene, actions (nervous or calm), attention to and interest in the evaluator and surroundings, the client's curiosity (or lack of it), and the client's attention span. After these initial observations, random and on-going observations of the client's behavior is appropriate. In the interest of avoiding premature assessments, observations are best conducted from the situational perspective, i.e., derived from observing the client's behavior in a variety of situations. The focus here would be to include and elaborate upon those specific steps listed previously in the initial observation phase.

The evaluator should continually apprise himself of any tools or instruments that would assist him in objectively evaluating and assessing the behavior of deaf clients. Great care should be taken, however, to fully recognize the potential limitations of using such tools or instruments with deaf clients, both in terms of their application and interpretation.

Multiply Handicapped Deaf Clients

During the course of client behavioral observation, one additional area of significance should receive attention. This is the identification of obvious or suspected potential problems and/or handicapping conditions in addition to the disability of deafness. These may be physical, mental, emotional, deprivational, and/or a multiple combination of other disabilities. The multiply handicapped deaf person brings to the evaluation process an entirely different set of problems than does the client who is deaf only. If the evaluator has reason to believe, or actually determines, that additional disabling conditions are present in a deaf client, then the course of the evaluation process for the client is, in many cases, drastically extended and/or altered.

This, of course, seriously affects the evaluator's plan of action and subsequent recommendations. Multiply handicapped deaf persons as a group need unique and specialized rehabilitation services. As would be expected, they often require long and intensive training in areas such as personal, social, and work adjustment. In short, the multiply handicapped deaf client usually requires services far beyond that generally needed for the person whose only handicap is deafness (Crammatte, 1968). Such services include, of course, those provided by the vocational evaluator. The

Task Force stresses that given the complexity of the problems presented by the multiply handicapped client, there is really only one general "rule of thumb" for the evaluator: The client enters the evaluation process as an individual, and should be evaluated as such in terms of the person he is in his totality.

Chapter VI PSYCHOMETRIC

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The third step in the vocational evaluation process is usually referred to as psychometric assessment. This phase is designed to provide the evaluator with information about the degree to which the client possesses certain traits or abilities which are abstract in nature, but considered to be normally distributed among the general population (Nadolsky, 1971). Psychometric tests are used in vocational evaluation to provide a general understanding of the individual's general vocational assets and limitations. The various tests used in this phase of evaluation provide objective data on the client's level of intelligence, aptitude, and educational attainment, as well as assessment of vocational interests and personality factors which underlie and motivate individual behavior (Nadolsky, 1971). Although many of the psychometric tests do not directly relate to vocational criteria, they do provide for assessment of those generalized traits and abilities which underlie and contribute to defining the individual client's vocational assets, limitations, and potentials.

Process Considerations

In contrast to general vocational assessment programs where psychometric evaluation constitute the core service, these tests are used in vocational evaluation primarily to gain an initial general understanding of the client's vocational assets and limitations. The general information obtained through psychometric evaluation is, then, designed to generate a baseline profile of the individual, derive hypotheses for additional exploration, and provide general directions which the vocational evaluation program might take for a particular individual. More specifically, the purpose of psychometric evaluation is to obtain as clear an understanding of the individual and his/her needs as is necessary to assist him/her in the vocational decision making process.

Parameters of the Psychometric Evaluation

The tests, techniques, and procedures discussed in this chapter do not exhaust all possible tools which might be used in the psychometric evalua-

tion of deaf persons. Specific tests and procedures mentioned here should not discourage the psychometrist from using and experimenting with other tests and procedures when evaluating deaf persons. In fact, techniques of psychometric evaluation discussed here are merely guidelines for gathering basic facts about the traits, abilities, interests, aptitudes, and personality characteristics of the client. "Appraisal, on the other hand, lies not in collecting facts but in the identification and interpretation of significant details" (Levine, 1960).

The only instrument designed to identify and interpret significant client traits is the psychometric himself. No psychological technique can replace the clinical competence and experience of the psychometrist (Levine, 1960). Guidelines presented here are accordingly predicated on the assumption that only clinically competent and experienced psychometrists will be employed in the psychometric evaluation of deaf clients.

Assuming this condition is satisfied in most instances, no detailed discussion of general clinical techniques, procedures, and/or descriptions of tests are presented in the text. These skills and knowledge are assumed. Instead, the Task Force has structured the present chapter around discussion of techniques and procedures specific to psychometric evaluation of deaf persons. Specific tests mentioned in the text are those which serve to provide an example of how various abilities and traits might be evaluated in a deaf person. Appendices A and B provide descriptions of other tests and procedures often used in vocational evaluation. The interested reader may refer to those two appendices for reference purposes as well as general comments related to their characteristics and/or use with deaf persons.

Those persons interested in a more detailed discussion of test administration and interpretation with deaf persons are encouraged to consult other sources. Falberg's (1967) concise article on the psychological evaluation of prelingual deaf adults presents a short but excellent overview. For more extensive in-depth material the reader might refer to Levine's (1960) book on the *Psychology of Deafness*.

Communication with the Deaf Person

Client-evaluator communication skills assume critical dimensions in the psychometric evaluation phase of vocational evaluation. In contrast to later phases of the evaluation process which are behaviorally oriented (e.g., work samples and situational assessments), psychometric tests often require paper-and-pencil tasks, specific verbal instructions, and/or extensive verbal interactions as well as reading comprehension skills. These communication factors are particularly critical in the psychometric assessment of deaf persons. Particularly in the assessment of prelingually deaf. The problem is not the hearing loss itself but rather the communication difficulties resulting from the inability to hear and understand the

spoken word. In order to obtain a valid psychological profile on any individual, meaningful communication must occur between the examiner and client. The major obstacle when working with deaf people is establishing a reliable mode of communication.

Evaluator fluency in Ameslan (American Sign Language) is not the only skill needed to overcome this problem. Though one essential skill, in the majority of cases it must be kept in mind that some deaf people do not know how to sign, some may be oral, others may have no formal language system at all. Flexibility in the ability to communicate using a variety of modalities including sign language would be a more valuable requisite for a psychologist/psychometrist working with deaf people. Bearing this in mind, the examiner should informally assess the following communication skills of the client whether or not it has been done in a previous stage of the intake procedure:

- I. Receptive Communication Skills
 - A. lipreading
 - B. reading
 - C. manual communication
 - 1. signing
 - 2. fingerspelling
- II. Expressive Communication Skills
 - A. speech
 - B. written English
 - C. manual communication
 - 1. signing
 - 2. fingerspelling

An idea of how well the client can use any or all of the above will enable the examiner to better select those tests to be used in the assessment battery and to determine how, if necessary, he will have to modify any administration procedures to fit the language proficiency of the client. It may also prove valuable to include a short description of the client's verbal skills with the test results. Thus when the report is disseminated to the appropriate people they too will have an idea of the verbal level at which the testing took place.

The use of an interpreter to establish communication is sometimes necessary. Introducing a third party into the testing situation, however, may introduce contaminating factors and cause the results to lose much of whatever validity they might have had. The examiner no longer has a direct relationship with the client and must totally rely on the skills of the interpreter to accurately convey the messages of both parties. If, for whatever reason, the services of an interpreter are required, it is wise to carefully investigate the quality of same. R.I.D. certification now specifies the kinds of interpreting the individual is qualified to perform and

becoming more reliable as far as being an indicator of the quality of service to expect. Under no circumstances should a relative or friend be permitted to act in the role of the interpreter (Vernon, 1965). In the case of the client with little or no language skills, the examiner may have to resort to demonstration and/or pantomime to convey the test instructions.

Pre-Assessment Screening

Psychometric evaluation of deaf persons should include, as with any client group, a careful collection, review, and assessment of pertinent personal data. Appropriate assessment procedures would suggest this review of client biographical data should take place prior to the actual psychometric evaluation.

Pre-assessment screening of deaf persons should usually include review of those biographical characteristics associated with deafness as well as general personal data. The implications of biographical data specific to deafness were discussed previously in Chapter IV. However, to guide the evaluator unfamiliar with deafness, a Biographical Information Checklist which combines general biographical information with factors unique to deafness is presented.

Biographical Information Checklist

1. Personal Statistics
 - a. Name
 - b. Address
 - c. Age
 - d. Sex
 - e. Marital status
 - f. Race
2. Audiological-Hearing
 - a. Type of loss
 1. conductive
 2. sensory neural
 3. progressive or stable
 4. recruitment
 5. balance problems
 6. prognosis
 - b. Severity of impairment
 - c. Age at onset
 1. severity at onset
 - d. Etiology
 - e. Hearing aid
 1. type
 2. age first fitted
 3. type of training

4. hearing level aided
5. regularity of use
- f. Copy of most recent audiogram
- g. Copy of most recent otological examination
3. Visual Assessment
 - a. Type of problem if any
 1. Refractive errors
 - a. myopia
 - b. hyperopia
 - c. astigmatism
 2. structural anomalies
 3. infectious diseases
 4. impaired muscle function
 - b. Severity of the problem
 1. implications with regard to vocational options
 2. is problem correctable surgically or with corrective lenses
 - c. Does client wear corrective lenses
 1. do they correct the anomaly
 - d. Copy of most recent ophthalmological and optical examination
 - e. Check list of symptoms indicating visual problems
 1. eyelids crusted red, in which styes or swelling appear
 2. discharges from the eye
 3. lack of coordination in directing vision of both eyes
 4. frequent rubbing of eyes
 5. inattention when sustained visual activity is required or when looking at distant objects
 6. tenseness of the body
 7. squinting
 8. forward thrust of head
 9. walking overcautiously
 10. faltering or stumbling
 11. running into objects
 12. failure to see objects readily visible to others
 13. sensitivity to normal light levels
 14. inability to distinguish colors
 15. difficulty in estimating distances
 16. bloodshot eyes
4. Basic Medical
 - a. secondary disabilities
 - b. physical limitations
 - c. dental report
 - d. family medical history
 - e. personal medical history
5. Neurological (if indicated) Checklist of Behavioral Indicators
 - a. Confusion between words related in meaning or experience such as table, chair, etc.
 - b. Occurrence of horizontal and vertical word or letter reversals

- c. Inconsistent mispronunciations (also signing)
 - d. Verbal and manual retention span reduced
 - e. Loss of original intent of message
 - f. Inability to do sequence tasks
 - g. Confusion of letters with similar configurations on matching tasks.
For example: E-F, W-M, C-G, P-B-R, etc.
 - h. Peculiar gait
 - i. Facial immobility
 - j. Oral (and/or fingerspelling) spelling better than written spelling or vice versa
 - k. No name identification
 - l. Difficulty in producing rapid alternating movements of the speech musculature
 - m. Repetition is defective
 - n. Emersion of speech is slow, labored and usually accompanied by difficulty in swallowing
 - o. Spatial perception and directionality may be impaired
 - p. Undefined problems such as hyperactive behavior, perseveration, frequent spells of daydreaming, etcetra, might also be neurological clues
6. Family History
- a. Members of family deaf
 - b. Parents
 - 1. living
 - 2. married or divorced
 - c. Siblings
 - 1. age
 - 2. sex
 - d. Can family communicate with client
7. Education
- a. Highest grade completed
 - b. Type of school
 - 1. if residential, was program vocational or academic
 - 2. transcripts of highest level of education, i.e. high school or college
 - 3. Copies of any achievement tests administered to client
8. Vocational history
- a. Listing and description of all previous positions
 - b. Why each was terminated
 - c. Any previous vocational training
 - d. Copies of any vocational aptitude or interest tests administered
9. Psychological history
- a. Tests administered
 - b. Developmental history
 - c. Adjustment history
 - d. Prior psychological services, if any
10. Reason for referral
- a. By whom
 - b. For what service(s)

The Psychometric Interview

The psychometric interview should generally follow those interview procedures outlined previously in Chapter V. Only at this point the psychometrist would focus on gaining an initial clinical impression and understanding of the individual client. To develop initial rapport with and understanding of the client, the psychometrist might best structure the initial psychometric interview contact to incorporate: (1) clarification and confirmation of client personal-vocational adjustment; (2) ascertainment of client physical adjustment; and (3) orientation of the client to testing procedures.

Clarification and confirmation of client personal-vocational adjustment—might include exploration of vocationally relevant data such as:

1. Personal Statistics
2. Audiological
 - a. Does he wear aid regularly
 - b. Does it help him
3. Visual
 - a. Does he have problems seeing
 1. double vision
 2. headaches
 - b. If client wears glasses
 1. when worn
 2. regularly or periodically
 3. do glasses help
4. Education
 - a. Did client like school
 - b. Favorite subjects
 - c. Least liked subjects
5. Vocational
 - a. If previously employed
 1. why terminated/fired
 2. preferred and least preferred jobs why?
6. Occupational goals and preferences

Ascertainment of client physical adjustment—might include exploration by the evaluator to:

1. Correlate client information with previously gathered information
2. Note any behavioral indications of a need for further testing
 - a. Visual
 - b. Audiological
 - c. Neurological
 - d. Physical

Orientation of the client to testing procedures—is critical in evaluation of deaf persons who, in general, are not as sophisticated or knowledgeable about psychometric tests as are the rest of the population. This is partly due to the relative lack of psychological services for deaf children and adults, resulting in very little contact with and therefore very limited knowledge about psychometric testing. It is therefore critical that the psychometrist invest time and effort in appropriate orientation of the deaf person to the test situation.

Care should be taken during the orientation process to break explanations down into simple and concrete terms. General procedures and points which might be included are:

1. Ascertain if the client has had previous experience with formal testing.
 - a. if so, what kind
 - b. when and where
 - c. what were the objectives
 - d. what were the results
2. Determine if orientation has been previously provided by referring counselor
 - a. review briefly with client
 - b. ascertain client's understanding, if any, of the nature and objectives of testing
3. Explain purposes of psychometric testing
 - a. what a test is
 - b. why the client is being tested
 - c. procedures which will be followed
4. Explain and describe test procedures
 - a. time factors
 - b. working to best of his/her ability
 - c. areas where there are no right or wrong answers
5. Relate testing to client's vocational goals and aspirations
 - a. testing will provide a broad indication of the client's vocational potentials
 - b. testing will not provide specific answers as to what specific job the client is best suited for

Anastasi (1975) describes several test orientation programs which the interested reader may wish to review. If appropriately modified, these test orientation packets may be of potential benefit in working with deaf persons. However, the most important element remains that of the clinical competence and experience of the psychometrist.

Language Assessment

In conjunction with assessment of a client's skills in various communication modalities, we would also require some measure of his/her language skills. A number of language tests which might be used for this purpose are

described in Appendices A and B. Information obtained through use of one or more of the selected tests can provide important data on the deaf client's expressive and receptive language.

For practical purposes the information gathered through one or the other of these tests should be carefully interpreted prior to use in determination of the client's intellectual abilities and/or learning potential. Formal language systems used by the general population are acquired auditorily rather than visually and place the prelingual, and in some instances, the prevocally deafened person at a disadvantage.

The purpose of administering a language test to deaf clients would primarily be to determine how well the client can use and manipulate the English language. Obtained for this purpose, the information can be used to guide the selection of tests for the assessment battery. In the psychometric report this information could aid in program development for the client's individual vocational rehabilitation program. For example, if a potential vocational goal is post-secondary training, or employment in a setting which requires good language skills, information related to the client's language skills would be invaluable in planning and counseling with the client.

Test Selection

Psychometric evaluation of deaf persons, as with other client groups, requires that an individualized program be developed for each client. There are no specific tests which each and every client should take, but a great number of alternative tests available for individualized selection and application. As there are more than an estimated 3,000 tests available the psychometrist is not limited in which tests he may use for an individual client. However, there are a number of factors in test selection which the psychometrist might consider to assist him/her design an individualized testing program for deaf persons.

1. Basic test battery might include
 - a. Perceptual functioning
 - b. Intellectual functioning
 - c. Personality
 - d. Achievement
 - e. Vocational interests
 - f. Vocational aptitudes
2. Major considerations in test selection
 - a. Vocational goals of the client, if any
 - b. Communication modality
 1. receptive
 2. expressive
 3. can test under consideration be modified for use with the individual deaf client w/out impairing its validity or reliability?

- c. Language level of the client
 - 1. receptive
 - 2. expressive
- d. Is the test verbal or performance-oriented
- e. Is it possible to select the subtests most useful with a deaf person and arrive at a valid prorated score or at least be able to derive enough information to make its administration worthwhile?
- f. Is the test power or speeded
 - 1. if speeded does the client understand the implications of this kind of test
- g. How does the test fit in with the other tests in the battery?
 - 1. is it overly repetitious of another test?
 - 2. can it support other results or be complemented by other tests?
- h. Are there deaf norms?
- i. Type of test
 - 1. nonlanguage: requires no language for either task performance or test administration
 - 2. nonverbal: instructions may involve language but responses do not
 - 3. performance: requires a manipulative response
 - 4. verbal: requires verbal task performance, administration, and response (Levine, 1960)

Test Most Often Used in Vocational Evaluation of Deaf Persons

The Task Force identified a number of tests which are often used in the vocational evaluation of deaf persons. Primarily performance-oriented tests, most also permit flexibility in use of demonstration and pantomime instructions. Some of these are listed here in summary form to provide the reader with basic information related to tests which have been found useful in evaluation of deaf persons. Major features which make the tests attractive for use with deaf persons are discussed. The reader will also find a number of additional tests which are commonly used in general rehabilitation practices listed in Appendix A.

Evaluation of Memory and Perceptual Functioning

The Bender Visual-Motor Gestalt Test and the Graham-Kendall-Memory-For-Designs Test provide excellent tests for the evaluation of memory and perceptual functioning. Designed primarily to screen for brain damage, these tests are also used by some clinicians as projective techniques.

Both tests are nonlanguage in design and are easily administered to deaf people. It is possible to administer either test simply by demonstration. Either test can also be used to substantiate the results obtained on one or the other.

Either test is an excellent first-test in evaluation of deaf persons. The relative simplicity in instructions and client task performance requirements can enhance client-evaluator communication, rapport, and comfort.

Assessment of Intellectual Functioning

One of the best estimates of the level of intellectual functioning in deaf adults can be obtained from the Performance Scale of the Wechsler Adult Intelligence Scale (WAIS). Instructions can be demonstrated, pantomimed, and so readily conveyed that even clients with no formal communication skills can be tested. These instructional features, the variety of situations under which behavior can be observed, and various intellectual abilities can be measured make the WAIS Performance Scale one of the best instrument of its kind in evaluation of deaf adults.

Instructions for four of the WAIS Performance Scale, for example, can be administered by demonstration, pantomime, or gesture (e.g., Digit Symbol, Picture Arrangement, Block Design, and Object Assembly). Only the Picture Arrangement subtest presents real difficulty in administration (see Falberg, 1967).

Interpretation of test results need not vary greatly from the evaluator's usual procedures with the WAIS Performance Scale. Interpretation will require, however, that the evaluator be familiar with and knowledgeable in deafness in order to accurately interpret test results in terms of the individual deaf person's life experiences.

The Verbal Scales of the WAIS are generally not used with low achieving deaf clients because—

"The basic premise of verbally loaded tests is that the subject has had an uninterrupted opportunity to acquire comprehension of spoken and written English language from the moment of birth to the time of testing—"
(Falberg, 1967, p. 31; See also Vernon, 1967.)

However, the evaluator testing higher-achieving deaf persons who are contemplating post secondary training or vocations requiring verbal skills may find the WAIS Verbal Scales of value. The rule here should be that of using the Verbal Scales only when client communication and language skills permit and there is a compelling reason for assessing verbal intelligence. Even in these instances the Performance Scale probably provide a better estimate of the deaf individual's intellectual potentials.

For an expanded discussion on use of the WAIS to evaluate the intellectual functioning of deaf persons refer to Falberg (1967), Vernon (1967), and/or Levine (1960). Each expands upon use of the WAIS as well as other psychological instruments with deaf clients.

Personality-Projective Assessment

The Draw-A-Person (DAP) and House-Tree-Person (HTP) figure drawings are examples of two projective tests which can be productive in the personality assessment of deaf persons. Instructions for both tests are

straightforward and require a minimum of explanation and/or direction. The wealth of clinical information generated by the DAP and HTP, plus their relative ease in administration make these the instruments of choice in instances where the evaluator lacks extensive experience in personality assessment with deaf persons.

The only problems in test instructions are those of communicating the basic concepts that the client is to draw a person, a house, and/or a tree. Low achieving and/or clients with no formal communication skills may not understand these abstract concepts. Clinical questioning and/or clarification of the client's drawings also require fluent client-evaluator communication. However, in most instances, a skilled interpreter could be used to assist the evaluator understand and communicate with the deaf client.

A third major projective test often used in personality assessment of deaf persons is the Thematic Apperception Test (TAT). In contrast to the DAP and HTP, the TAT is a highly verbal test. Productive use of the TAT with deaf persons requires that the client have the language and communication skills for spontaneous articulation. The evaluator (or interpreter) also must be fluent enough in manual communication to understand the client's expressions.

Another important factor would be the evaluator's knowledge of deafness, and the social, cultural, communication, and related life experiences of deaf persons. An understanding of deaf idioms would also be involved. Only the evaluator skilled in manual communication (ameslan) and deafness should attempt to use the TAT with deaf persons, or, only under the immediate supervision of an individual who is experienced in use of this instrument with deaf persons. (Vernon, 1967; Rosen, 1967)

Evaluation of Scholastic Achievement

An estimate of the client's level of academic achievement is important in vocational evaluation. Particularly the assessment of client skills in reading comprehension, writing, and arithmetic. The objective in vocational evaluation is usually not just to determine academic grade level, but also some indication of functional capacities and potential for learning new skills.

In his overview of psychometric evaluation of prelingual deaf adults, Falberg (1967) notes that standard achievement test administrations are—

“—not possible with deaf clients unless we can insure comprehension of the instructions—by working with the client—on sample problems until we are certain that the client understands the nature of the task.” (p. 42).

Achievement tests which have norms (only for children) for use with deaf persons include the Metropolitan and Stanford. The Stanford

Achievement Tests, for example, ranges from Primary Level I through the Advanced Level. This particular battery is relatively new, published in 1973. It was standardized and normed for deaf students by the Gallaudet College Office of Demographic Studies.

Another test, the Wide Range Achievement Test (WRAT), although commonly used in the field of rehabilitation is not recommended for use with deaf clients. The reading and spelling subtests of the WRAT are highly verbal in nature and cannot be translated verbatim into manual communication. The only exception is the arithmetic computation subtests which can be administered without modification.

Evaluation of Vocational Interests

Although deaf persons with adequate language and reading comprehension skills can conceivably take any of the existing vocational interest tests, little is known about the validity or potential of these instruments with deaf persons. Deaf persons who have limited reading skills (e.g. 1-4 grade) would obviously encounter difficulties understanding many of these tests such as the Strong, Kuder, Gordon, or other verbally-oriented interest inventories. Most all major inventories in general use require approximately a fifth grade or better reading comprehension level.

Even pictorially oriented tests such as the Geist Vocational Interest Inventory and the California Picture Interest Inventory are problematic. The problems with these tests are those of statistical and content deficits. Lacking content and statistical validity, these two tests, although providing an excellent format for deaf clients (e.g., pictures), are of limited use in assessing client vocational interests.

Lacking valid paper- and pencil-interest inventories, many evaluators working with deaf clients have resorted to on-site visitations to a variety of industry and training programs. The limitations of this technique are readily apparent in its limited scope and unstructured nature.

A more recent development with promise is the use of film strips which present a large variety of occupational operations sampled from different job fields. Discusses in more detail in (Chapter VII) the chapter on job samples, vocational evaluation systems such as SAVE and Singer when appropriately adapted, offer definite advantages for assisting the vocational interests of deaf persons, particularly low achieving deaf clients.

Evaluation of Vocational Aptitudes

A large number of vocational aptitude and dexterity tests can be administered to deaf persons with a minimum of difficulty. A selected group of those which are primarily performance-oriented are summarized in Appendix A. Instructions for each can be readily demonstrated to the deaf person.

The major problems with these tests are inherent in the limited construct, predictive, and face validity of the tests themselves. Questions related to the validity of these vocational aptitude and dexterity tests detract from their (otherwise) advantages in test administration.

To the extent that they contribute to a better understanding of the deaf client's vocational aptitudes, portions of the Bennett Mechanical Comprehension Test, Minnesota Clerical Test, Non-Reading Aptitude Test Battery, Flanagan Aptitude Classification Tests, Flanagan Industrial Test, and the General Aptitude Test Battery (GATB) are frequently used in psychometric evaluation with deaf persons. The latter test, GATB, is currently in the process of being normed for deaf persons. Research conducted by the Oregon Vocational Research Project (1972) and the North Carolina State Employment Services (in progress) have explored modifications in test instructions and procedures for use of the GATB with deaf persons. As the best validated multiple aptitude battery in use, the development of deaf norms on the GATB would certainly be a significant advantage and incentive for increased confidence in its use to assess deaf clients.

Another developing resource for evaluating the vocational aptitudes of deaf persons are the work sample tasks described in Chapter VII. As in the assessment of vocational interest, the concrete face and construct validity of work samples offer significant advantage over traditional aptitude tests in evaluation of deaf clients. Evaluators working with deaf persons are encouraged to keep abreast of developments in work samples and analyze the relative advantages of using either work sample systems and/or traditional aptitude tests.

Test Administration

Almost all the psychometric tests discussed in this chapter were designed for use with the general population. Many will require some modification in administration and/or interpretation when used with deaf clients. This will have to be done on an individual basis for each test.

There are, however, some basic principles that often apply in testing deaf people.

1. Testing should be done on an individual basis as much as possible. Even in instances where the test was originally designed for group administration (e.g., achievement and interest tests), it is generally recommended that the test be administered individually.
2. The evaluator should ascertain at all times that the client thoroughly understands what is expected of him during each step of the testing procedure (see p. 65).

- a. Standardize manual communication and/or demonstration translations of the test instructions so that well structured and accurate test directions are provided for deaf clients.
- b. Assess and adapt to the communication style and skills of the client both expressively and receptively.
- c. When permissible have extra sample problems available for demonstration to the client prior to actual testing.
- d. On each new task (category) have the client repeat back what s/he interprets or understands to be the required task.
- e. Ascertain that the communication skills on the part of *both* parties are sophisticated enough to meet the requirements of the test under consideration.
- f. If the evaluator's communication skills are inadequate, consider the use of interpreting services.
- g. If the client's communication skills are inadequate, consider other alternatives by which the same information might be obtained.

Post Test Interview and Interpretation

The nature of the post test interview and interpretation of the findings will depend on the communication skills and sophistication of the individual deaf client. A great deal of insight can be obtained by both parties if and when satisfactory interaction is possible. Appropriately structured, the interview permits the evaluator to check out hypotheses generated by the psychometric evaluation, and permit the client opportunities to obtain relevant information about test results and their implications for his/her vocational direction.

Even evaluators skilled in manual communication too often neglect to share evaluation findings with deaf clients because of communication difficulties. However, the objectives of evaluation are not just to test a given individual but to assist the individual gain a better self-understanding of personal traits, abilities, assets, limitations, and potentials toward maximum adjustment. The client involved has a great deal at stake and should be as fully informed as possible regarding his/her psychometric evaluation findings and recommendations.

When the individual administering the tests does not feel qualified or capable of communicating significant results and recommendations to the deaf client, s/he should either obtain the assistance of an interpreter and/or refer the client to the counselor or other responsible staff person who can do so. In all instances, the psychometric evaluator needs to be alert to his/her own expressions, attitudes, and body language which the deaf client may try to analyze and interpret for clues as to his/her test performance and results. Particularly when the client may feel insecure because of the *evaluator's* deficient communication skills.

At this point the evaluator may also want to go into some detail regarding test findings and their implications for further assessment. For example, if they are different staff persons, the psychometrist may request a conjoint staffing with the vocational evaluator and the deaf client to discuss and plan the client's work sample and situational assessment programs based on the initial assessment (e.g., biographical data, interview, and psychological testing) results.

As pointed out in the introduction to this chapter, no general rule of thumb applies. Each client must be evaluated and counseled according to his unique individuality. The task for the evaluator is to apply his/her clinical skills and experience to the maximum to facilitate the client's achieving an increased self-understanding and vocational direction. Deaf persons deserve no less than the best we can offer them within the parameters of our own clinical skills.

THE USE OF WORK SAMPLES WITH A HEARING IMPAIRED POPULATION

Similar to other service activities in rehabilitation, work evaluation is a process which will have direct impact on the deaf individual's vocational adjustment and development. To be effective, the purpose and reason for work evaluation must be explained and understood by the individual deaf client. This process can be relatively simple if a first hand tour and visual presentation are given so that the deaf client grasps the total concept.

When the deaf client understands his role in the vocational evaluation process, he will be in a position to more actively participate, being aware that task performance affects his future. By providing a large variety of work tasks in the evaluation process, the client will be able to sample work tasks which approximate a broad range of selected employment fields.

Structured work samples, when they emphasize face validity, will not only closely resemble the actual work task, but also enable the client to experience the type of work situation, the environment, and the effort required to complete such work tasks. The client will acquire first hand experience in and understanding of various occupations, and be better prepared to ascertain whether or not to pursue a given occupation. Many of the commercially available systems as well as evaluator-constructed work sample tasks also test out the verbal and non-verbal abilities of the client which are important to the process of work evaluation.

At the conclusion of a work task, the evaluator will need to consider those factors that he normally does with all clients going through the evaluation process, as well as explore considerations unique to the vocational evaluation of deaf clients:

- a. Environmental factors associated with work task
 - 1. noise
 - 2. overhead moving objects
 - 3. verbal and nonverbal communication systems
 - 4. vibration
 - 5. independent or group work stations
- b. Communication
- c. Other findings which hinder activities of client not found in referral or interview process
- d. Body contact
- e. Distractions (i.e., visual changes in environment)
- f. Client information about particular vocational field which the task samples.

This information can then be integrated with data on client task performance to ascertain vocational potential for a specific occupational field.

As with other phases of the evaluation process (e.g. biographical data, interview and psychological testing), the objective of work samples are not to obtain isolated bits of information, but to integrate and synthesize work sample performance with all other relevant evaluation findings. The concrete here-and-now face validity of work sample tasks further contributes to client self-evaluation as he likes, dislikes, is capable, or incapable of performing specific work tasks. Sometimes termed the "encounter" phase of vocational evaluation (Nadolsky, 1971), work sample evaluations' greatest potential appears to be the process of client self-exploration and interaction with various tasks.

Many evaluators consider work samples the system of choice in vocational evaluation of deaf clients. Considering the concrete, performance-based nature of work samples and their high degree of face validity, this bias is understandable. Few standardized assessment procedures can equal work sample in this respect, whether for general client groups, or deaf persons.

Evaluation of deaf clients, using work samples is not, however, a panacea for the deafness rehabilitation field. As with any assessment procedure, work sample evaluation of deaf persons requires professional skills and knowledge of the highest standards. As in psychometric, personality, or other standardized testing, the reliability, validity, and quality of information obtained through work samples are directly related to the clinical skills of the evaluator.

Work samples do not sample an infinite variety of occupational fields. Commercial systems currently on the market sample only a finite number of occupations. Further they were standardized and normed on specific client populations. As a result, straightforward use with a deaf client is problematic at best.

The present section attempts to come to grips with these problems by presenting guidelines in Chapter VII for using nine major commercial work sample systems with deaf clients. These are, at the best, only "beginning statements" from which the reader might formulate his/her own evaluation strategies. Chapter VIII presents guidelines by which the evaluator might develop and standardize evaluator-constructed work samples for those job tasks not available in the commercial systems.

Chapter VII

THE USE OF COMMERCIAL WORK SAMPLES WITH A HEARING IMPAIRED POPULATION

Steve Sligar

Upon completion of the initial assessment or basic evaluation of a deaf client, there are several options available to the evaluator. The client can be referred to another service area, terminated from the program, or remain in the evaluation unit. Should the client remain in the unit, a work sample based evaluation can provide additional data about work related behaviors. In the process of obtaining this data, the assessment components can extend beyond data collection about the client to the realm of providing the client "with a learning situation in which he acquires basic skills that will facilitate vocational decision making in the future" (Dunn, 1973). This inherent aspect of work samples make them particularly meaningful to deaf clients who, unless extremely verbal or culture wise, may not perform to their best capabilities on a psychometric or "massed evaluation," designed to obtain data in a minimal amount of time (Brolin, 1973).

One aspect of work samples in vocational evaluation is the commercially available systems. There are several systems on the market now, but none have been specifically designed for use with hearing impaired or deaf clients. Since many facilities have invested in these systems and are now receiving referrals for evaluation of deaf clients, it is a logical assumption that these systems, which were not designed for evaluation of deaf individuals, are being used for that purpose.

The present chapter of the Task Force report is directed to the use of these commercial systems with some suggested modifications, adaptations, and appropriateness for use with a deaf client. Modification deals with some of the considerations for change, adaptability with the ease of modification, and appropriateness concerning their use. There are some inherent dangers in modifying these systems as pointed out by Dunn, "As a general rule, a commercial work sample system shouldn't be modified without good cause and without careful examination of the consequences of the modification." Some considerations he points out are (1) standardization will be affected when the instructions are changed, (2) norms are invalidated when the difficulty level of the task is changed, and (3) a change in materials or tools affects the validity" (Dunn, 1973).

All of the commercial evaluation systems depend heavily on verbal instructions to the client. The very act of manually translating these instructions or clearly enunciating them for a client (who speech reads but is still unable to discriminate no more than perhaps 30 percent of the

spoken instructions), changes the standardization. However, if the deaf client is to understand what to do, the instructions often must be changed. The evaluator must be willing to make an effort to communicate the instructions in a manner which ensures that the client understands what is required and expected. In facilities that have interpreters, the evaluator must remember that even though the instructions are given in the standardized manner, interpretation will probably translate them into conceptual sign language. As a result, instructions may retain the same meaning, but not the standardized wording.

As stated previously, two of the advantages of work samples are (1) the client is permitted self-discovery of his or her own unique skills, and (2) it is a method of gathering career information. This client-evaluator relationship is probably one of the most crucial aspects of evaluation. This can best be obtained in a one-to-one relationship built on mutual trust and respect. It is only through this relationship that the clients' performance can be brought to full potential and significant feedback offered (Friend, 1966).

The key to this relationship is communication. Again, it is the evaluator's responsibility to communicate with the client on whatever level and through whatever means is most conducive for feedback. Deaf clients with manual communication skills can be given task instructions through an interpreter, but interviews and casual interactions may be affected. If an interpreter is used, then she should be extremely skilled in manual communication, as could be evidenced through certification with the national Registry of Interpreters for the Deaf (R.I.D.)

Each of the systems can be administered by one of the four alternative approaches:

1. The evaluator can recite the instructions orally. This approach is feasible when the client is one of those rare individuals with excellent speech reading skills and high verbal ability.

2. Permit the client to read the instructions. Appropriate only when the instructions are written at a grade level commensurate with the client's reading abilities.

3. Use an interpreter. This may permit effective verbal instructions, but can significantly affect the evaluator-client relationship and may result in the evaluator evaluating the interpreter.

4. Modification of task instructions to correspond with the respective communication skills of the evaluator and individual deaf client.

The individual evaluator has to select whichever of these four methods is most appropriate for a particular deaf client. However, in the system's analysis, which follows, comments and suggestions will be directed to the fourth approach.

System's Analysis

The following analysis of systems is by no means inclusive of all available systems nor of all possible modifications. However, the outlines do take into account seven major well known systems (JEVS, McDonald Vocational Capacity Scale, Singer, TAP, TOWER, VALPAR, and the WREST) and two relatively new systems (Hester, and S.A.V.E.). The nine systems are individually analyzed in the following eight part outline format:

- I. **NAME**—This section presents the name of the system, the supplier and the general nature of the system. The reader can also consult Appendix C (pages 139-141) for information on costs and sources for purchase.
- II. **ORGANIZATION**—Includes the number of samples or components, how they are organized or grouped, and approximate time needed for administering the entire system to one client.
- III. **NORMS**—Includes a brief description of populations the system was normed on. A few of the systems have been used with deaf clients but no normative data has been gathered.
- IV. **PROCESS**—The process of administering the samples is described, including pre-screening and sequence. Suggestions for development of pre-screening devices and changing sequence are included where applicable.
- V. **METHOD(S) OF ADMINISTRATION**—This section describes the present method(s) of administering the sample(s) to the client and includes some possible modifications of instructions for use with a deaf client.
- VI. **SCORING METHODS**—A description of the type of scoring system is presented.
- VII. **TRAINING**—A description of the evaluator training that is required by suppliers (for administration and interpretation) prior to purchase of the system is included.
- VIII. **GENERAL**—Comments about the use of the system with a deaf client including both positive and negative aspects.

Outlines presented here are designed to provide descriptive information on each system as it now exists with comments about possible ways of adopting the system for a deaf client. Discussion of how well the systems sample what they are supposed to measure (content validity), or how well they correlate with predicting job success or performance level (predictive validity) of deaf clients have been purposefully omitted. This is due to the lack of published research on these two areas. All of the nine systems

contain information on sample groups (norm groups), who have taken the various test items, but this should not be confused with gathering validation data. Currently, several of the systems are gathering validity data, but this is not available at present. With the exception of the VALPAR system, none reported research on test reliability and validity.

Although a number of the commercial systems have been used extensively with deaf rehabilitation clients, no normative or validation data have been published to date. Those reports which are available provide descriptive accounts of a general nature and fail to address issues of modifications, validity, or development of "deaf" norms.

A beginning effort is currently underway, in a cooperative undertaking between the Florida School for the Deaf and the Singer system developers to modify and validate the Singer with deaf clients. Still in the developmental stages, it would be premature to discuss these efforts here. The interested reader may, however, wish to follow-up on this research.

The TOWER system has been reported as "useful in evaluating deaf persons, including retardates" but no specific validation information has been provided (Crammatte, 1968). This system was also used at the Hot Springs Rehabilitation Center (Rice, 1972) in developing a comprehensive regional center serving a deaf client population. But no specific information on validation or modification has been published.

The Jewish Employment and Vocational Service System (JEVS) has been used in two major deaf programs. The first project, completed in 1971 at the St. Louis JEVS on 265 young deaf adults showed 64% of those receiving services were employed (Hurwitz, 1971). A second program, in the Chicago JEVS, served 710 deaf clients. The results of this study showed 81% either employed or in training (CJVS, 1973). However, neither study reported validation data on using the JEVS system with deaf clients.

Another important aspect the evaluator using one or more of these systems should consider is how well the work samples appear to resemble the occupational field they represent. This is commonly referred to as *face validity* and is not a statistical procedure yielding a validity coefficient. It is basically an "eyeball" test and is performed by both the evaluator administering the test and the client who will be taking the test. The higher the face validity of the task (for the client), the easier it will be for the client to see a relationship between working on the sample and work done in the real world. The less face validity the task has (for the client), then the greater the burden on the evaluator in explaining why the client must do a particular work task. Due to the limited vocational information many deaf clients possess, the samples possessing higher face validity may tend to solicit a truer measure of a client's typical performance. Particularly when the client can see a relationship between performance on the work sample and an actual job.

Hester Evaluation System (H.E.S.)

The Hester Evaluation System (H.E.S.) is a multidimensional objective vocational evaluation system initially marketed under the name of M.O.V.E. Developed and copyrighted by Goodwill Industries of Chicago (Hester, 1975), the H.E.S., although a recent innovation, has gained quick recognition and acceptance in vocational evaluation. Comprised of 28 separate tests which are supplemented by evaluator ratings, the H.E.S. is currently being normed and validated on various disability groups in rehabilitation evaluation settings.

Organization. The 28 pure factor tests which comprise the H.E.S. are a combination of standardized paper-and-pencil psychological tests (4) common dexterity tests (5), and new devices (17) developed by H.E.S. These tests are grouped into seven (7) categories:

1. Unilateral Motor Ability
 - Purdue Pegboard
 - Wrist-Finger Speed (tapping board and stylus)
 - Arm-Hand Steadiness (stylus moved through different sized holes)
2. Bilateral Motor Ability
 - Minnesota Rate of Manipulation
 - Two-Arm Tracing Apparatus
 - Two-Hand Coordination (ETCH-A-SKETCH with a maze overlay)
 - Bennett Hand-Tool Dexterity Test
 - Multiple Limb Coordination (foot operated stapler)
 - Machine Folding (paper folding machine)
3. Perceptual
 - Perceptual Accuracy Test
 - Perceptual Speed Factor (use of Tachistoscope)
 - Minnesota Paper Form Board
4. Perceptual—Motor Coordination
 - Aiming Test (stylus placed in decreasing size holes)
 - Multi-Stimulus Reaction Timer (use of a 3 key telegraph)
 - Polar Pursuit Tracker (client follows moving light with a wand)
5. Intelligence
 - Raven's Progressive Matrices
 - SRA Verbal Test
 - Personnel Tests for Industry-Oral Directions Test

6. Achievement

- Gates-MacGinitie Comprehension Test (reading)
- Wide Range Achievement Test, Level I, (Arithmetic)

7. Physical Strength

- Hand Dynamometer
- Lift Bar to Chin with Attached Dynamometer

Time of Administration. Approximate time of administration is five to eight hours. The paper-and-pencil tests could be administered to small groups of clients.

Norms. Normative data available on this system were primarily derived from various disability groups served by Chicago Goodwill. However, the H.E.S. developers are currently gathering data on a nationwide base of 1500 clientele, who have taken the tests. This norm group will be comprised of primarily handicapped individuals, including deaf clients, but also includes non-handicapped persons who have completed the system. Since this process is incomplete, descriptions of the norm group(s) and the data being collected are not yet available. The system developers state that no special norms for particular disability groups are being gathered.

Process. The H.E.S. does not require a specific sequence of administration and not all of the tests need be given. However, to ensure more accurate results, as many of the tests should be given as is possible. No pre-screening is required by the developer and none would be necessary.

Methods of Administration. A variety of methods are used in administration (primarily oral and/or demonstration). Client task performance (as evidenced by correct responses to test items) is considered more important than adherence to standardized test procedures. The evaluator is encouraged to make sure the client understands what is expected prior to test taking. For those tests developed by H.E.S. to be useful with deaf clients, the verbal instructions would best be changed to manual communication and the demonstrations could be followed as described in the manual. There would be little difficulty using the H.E.S. dexterity tests, but the paper-and-pencil tests present problems in administration. Violation of these standardized test procedures could invalidate the obtained results. However, if the same types of breaks in standardization were followed each time, each test could be re-standardized. The sample requiring clients to listen to a cassette tape would entail modification over to a visual modality (e.g. video tape, print).

Scoring. All the tests have instructions for scoring. The commercial ones (e.g., Purdue) are scored according to their respective manual and those developed by H.E.S. are scored according to both time and performance of client. Evaluators are not required to interpret the raw test data.

The H.E.S. provides the evaluator with specific criteria for assigning a "people level" to the client. This assignment is based on interviews, case histories, behavioral observations, and other techniques. The evaluator must also assess general education level, realistic training time, physical activities, communication skills, and working conditions the client will tolerate.

All data are then recorded on forms and entered on a computer. These data are converted to variable scale scores, which have a range from 1.0 (lowest five percent) to 6.0 (highest five percent). Computerized scores are then analyzed to determine how they relate to the different "data" and "things" levels from the Dictionary of Occupational Titles (D.O.T.).

A computer print-out is returned for each client. Client profiles are divided into five sections. They are:

1. Identification (client).
2. Test Scores listed under each category (Variable Scale Scores).
3. Test Scores and people ratings are related to the data-people-things hierarchies. (D.O.T. Relationships).
4. Very feasible and feasible worker groups are listed along with corresponding page numbers from Volume II (D.O.T.).
5. Specific (very feasible and feasible) six digit job codes are listed to identify the industry, job title, page number, physical limits, working conditions, GED level, and SVP level appropriate for the individual client.

Training. Three days of training is both required and available. At least one person from the facility purchasing the system must complete the training. On-site consultation is available if problems cannot be resolved via telephone conversation.

General Comments. Most of the Hester Evaluation System could be administered through demonstrations to a hearing impaired client. However, as all of the tests lack face validity (for the client) the evaluator needs to take great care explaining why the client is taking the tests and how test performance is related to client goals. Botterbush (1975) points out that "the evaluator must be aware of possible disinterest and even resistance and be prepared to deal with this" when using the H.E.S. Additional weaknesses he identifies are, the concern with only measuring client's general abilities, and not obtaining information on his or her work behavior(s). Other techniques (work samples, tryouts, etc.) should be used to supplement the results attained on the H.E.S. There could also be a danger of too much evaluator reliance on the print-out.

Probably the most positive feature of the H.E.S. system is its keying with the D.O.T., which provides a common base of reference understood by

most evaluators. The system developers have pointed out that the D.O.T. has some inherent methodological weakness in defining the physical requirements of some jobs, especially in terms of deafness (hearing requirements). H.E.S. developers have corrected some of these problems by programming the computer to provide a greater variety of jobs for deaf clients who meet particular D.O.T. job specifications except for the "hearing" category.

The Crossroads Rehabilitation Center (Indianapolis, Indiana) has used the H.E.S. for initial assessment of their severely disabled deaf clients since 1975. They have found the system particularly useful during the initial assessment phase of evaluation to obtain a general measure of client abilities. Crossroads' experience in evaluating severely disabled deaf clients on the H.E.S. further indicates that the system can be effectively modified by use of manual communication and/or demonstrated instructions. Only those Crossroads deaf clients additionally handicapped by non-existent communication skills associated with severe retardation and/or physical complications (e.g., severe cerebral palsy) have presented insurmountable problems in test administration.

The experience of Crossroads and other programs for the deaf (e.g. Alabama Vocational-Technical Institute) which are implementing the H.E.S. system, will hopefully provide more definitive research on the systems' use in evaluation of deaf clients in the immediate future.

As reiterated repeatedly in this chapter, however, the H.E.S. and other work sample systems represent only one phase of the vocational evaluation process. Furthermore, the H.E.S. primarily tests out general psychomotor abilities and has little resemblance (face validity) to actual jobs. Its promise is as an initial screening battery. The H.E.S. system appears most effective then, when supplemented by psychometric testing, work sampling, situational assessments and related evaluation procedures.

Jewish Employment and Vocational Services Work Sample Program (JEVS)

Developed under a Manpower Administration grant project in Philadelphia, the JEVS was initially designed for the vocational evaluation of disadvantaged youths (JEVS, 1968). Although the JEVS has only recently become more widely used in rehabilitation vocational evaluation programs, it is extensively used by Manpower Administration programs (e.g., WIN, CEP, Job Corps) in evaluation of the culturally disadvantaged. Considered one of the better known commercial work sample systems (along with the TOWER and Singer systems), the JEVS originally contained 28 work samples. The present review considers the more recent

version of the system which removed the typing sample, reducing the JEVS to 27 samples (Kulman & Drachman, 1973).

Organization. The 27 work samples of the JEVS are grouped on the basis of 10 Worker Trait Group Arrangements from the D.O.T.:

1. Handling.
2. Sorting, inspecting, measuring, and related work
3. Tending
4. Manipulating
5. Routine Checking and Recording
6. Classifying, filing, and related work
7. Inspecting and stock checking
8. Craftsmanship and related work
9. Costuming, tailoring, and related work
10. Drafting and related work

Time of Administration. Five to ten days are required for administration of the JEVS system.

Norm Groups. No normative data is available on use of the JEVS with deaf clients. Norms were developed on 200 disadvantaged youth in Philadelphia. The evaluator can collect his own normative data on deaf clients, following the scoring procedure provided in the JEVS manual.

Process. There are no provisions for pre-screening in the manual. Twelve (12) of the samples (e.g., rubber stamping, pipe assembly, and tile sorting) do not require previous educational experience or pre-screening. However, the remaining sixteen (16) samples are academically based. Achievement testing would be necessary to determine if the client can read written directions, use a ruler, and do basic multiplication (some of the required basic skills). Dependent on the amount of achievement testing completed during the basic or initial phase of evaluation, the evaluator may find it necessary to develop pre-screening tests for certain samples (metal square fabrication, proof reading, computing postage, and others). Also, prior to administration of any of the samples, the evaluator should be aware of any other physical limitation, especially in motor coordination.

The manual suggests beginning with the simplest tasks and progressing to the most complex within each group. However, when evaluating a very high level deaf person, nut, bolt, and washer assembly, tile sorting, and other simple tasks, if administered first, can be tedious and perhaps promote client boredom and reduced cooperation. If these samples are administered first, the evaluator should have a definite reason in mind and explain this to the deaf client. As should be done with all clients.

Administration. The instructions are explicitly stated and depend primarily on verbal and demonstration directions. *Nineteen* are verbal or demonstrated, *six* are written, and *two* are diagrammatic. Adaptation of

the JEVS for the hearing impaired client would indicate a change in the instructional format. The standardized instructions were written for a hearing population and contain numerous hearing idioms. The instructions could be changed to manual communication, or words that are translatable to sign language. An example of this is taken from the instructions for the nut packing work sample. Test instructions state "Your job is to count 100 of these nuts and put them into a jar. Put the lid back on and return the jar to the box when you have finished the job" (JEVS manual, 1970). Instructions could be changed to manual communication as follows: "Your work is to count 100 of these (point to nuts) into each jar (point to jar). Put lid (point to lid) on the jar when you finish counting. Put jar with nuts back in the box (pantomime putting jar back in box)." For each one of the words in this instruction, there is a corresponding sign.

Work sample repeating is not recommended due to an invalidation of the results. If the evaluator wishes only to know the client's present level of functioning, then repetition of the samples would not be necessary. However, if the goal of the evaluation is to predict vocational potential and to anticipate level of functioning, then repetition could be advantageous. For example, suppose the client was administered the filing by numbers and proofreading work samples (in the Worker Trait Group Routine Checking and Recording), and earned both quality and quantity rating that were not acceptable. Instead of stating the client did not have potential in this area, the evaluator might re-administer these samples and compare the second results with the first. If the client were able to benefit from his first mistakes and practice experience, then an improvement should be noted. Such procedures can help the evaluator predict potential client success or failure with greater accuracy.

Clients requiring assistance after the initial instruction are penalized in the scoring for the JEVS. Before the evaluator permits the deaf client to begin a sample, he should ascertain that the client understands what is expected of him. This could be accomplished by arranging a practice problem or by observing the client's work during the initial steps of the sample.

Scoring. Both time and quality of the finished product are given equal weight in the scoring process. Cut off scores are provided.

Training. Training in the use of the system is both required and available. The two week training program is directed toward evaluator use of the JEVS system and learning how to make behavioral observations. There are no specific instructions in the use of the system with hearing impaired clients.

General Comments. Test administration procedures and format of the JEVS make adaptation for its use with deaf clients a relatively simple

process. The 19 tests with verbal instructions are readily translatable into manual communication and demonstration modalities. The two diagrammatic tests can also be administered through manual communication and demonstrations. Standardized written instructions for the remaining six tests can be scaled down to a lower level of reading comprehension (3-4 grade) and/or administered via manual communication and demonstrations. It is essential, however, that any changes in test administration be systematic, and themselves standardized with deaf clients.

Evaluators may find it beneficial to develop pre-screening tests for some of the JEVS samples. Academic achievement (e.g. reading and arithmetic) and motor coordination are of particular importance on 16 of the tests. Assuming this information is generally obtained prior to (initial phase of evaluation) work sample evaluation, however, pre-screening should present no major problems.

Due to the lack of empirical validation data on use of the JEVS with deaf clients, the prospective user should be cautious in test administration and interpretation. Programs which use the JEVS are encouraged to collect normative data on their deaf clients, following validation procedures described in the Manual. Collection and dissemination of such normative data could, in time, permit a more definitive analysis and discussion of the JEVS in vocational evaluation of deaf clients.

McDonald Vocational Capacity Scale (McDonald)

The McDonald Training Center in Tampa, Florida, developed the McDonald Vocational Evaluation System to assess the vocational capacity (potential) of mentally retarded young adults. Comprised of a series of evaluator rating scales, performance or behavioral indexes, and standardized tests, the McDonald assesses client "work personality." An overall index of the client's "readiness," or capacity, for various levels of vocational activity (e.g., day care or competitive employment) is provided by the Scale's classification system.

The McDonald system appears most useful in assessment of client employability, particularly where the rehabilitation problem is not "what job field a client should pursue," but a more basic problem of ascertaining the client's capacity to engage in meaningful and productive vocational behaviors. In that respect the McDonald Scale might be particularly useful in assessment of retarded and otherwise severely handicapped deaf clients who appear marginal or non-feasible for rehabilitation.

Organization. The scale is divided into eight parts:

1. Work habits, measured by a rating scale developed at the Training Center.

2. Physical Capacities, measured by a rating scale based on an adaptation of the estimates of the Worker Trait requirements for 4,000 jobs, published by the United States Employment Service.
3. Social Maturity, measured by the Vineland Social Maturity Scale.
4. General Health, measured by a rating form developed at the Training Center.
5. Manual Skills, measured by the Pennsylvania Bi-manual Test.
6. Arithmetic, measured by the math section of the Wide Range Achievement Test.
7. Motivation, measured by the completion of a disc assembly task, developed at the Training Center.
8. Following Directions, measured by the Wells Concrete Direction Test.

Time of Administration. The manual does not specify a time period, but states that over ten days was found necessary for the staff to get to know the clients.

Norms. There were no specific number of persons cited in reporting normative data, but the norm group was described as having the following characteristics:

- A. 70% male, 30% female
- B. Age range of 16-30
- C. I.Q. of 84 or below
- D. All were mentally retarded, most had a secondary handicap; none were severely disabled and no deaf clients were included.

Process. The manual does not specify any pre-screening measures. Since the rating scales are completed by the evaluator and the standardized tests require no pre-screening, then construction of screening batteries would not be necessary.

Work tasks and the standardized tests are administered during the evaluation period, but a specified sequential order is not stated. The rating forms are completed during and after the evaluation.

Administration. Standardized tests are administered according to instructions in their respective manuals. The instructions are written, oral, and demonstrated. The written and verbal instructions could be changed to manual communication. By changing these directions, the standardization would be greatly altered, and consequently, invalidate the normative data used for comparison.

There are no specifications in the manual concerning repetition of samples. Since this scale primarily relies on evaluator ratings and standardized tests, there would be little benefit gained by repetition.

There are no provisions in the manual for giving assistance. The nature of the measurement scales would obviate the need for assistance, so this should not be a concern.

Scoring. The standardized tests are scored according to their respective manuals, and the rating forms yield a numerical score. The scores are then placed in quartiles and multiplied by a weighted score to yield a sub-score. These are then added to provide a total score which classifies the client into one of four categories:

1. day care,
2. sheltered,
3. borderline, or
4. competitive.

Training. No training was specified. Facilities using the system may find it beneficial, however, to train evaluators on the system to obtain greater inter-rater reliability.

General. The McDonald Vocational Capacity Scale has been marketed as a Vocational Evaluation System. Since a concrete, concise, and working definition of what entails a true Vocational Evaluation System has not been stated, then this classification scale could possibly be included in one of the undefined parameters.

Definitive discussion on its application with deaf persons is not possible. However, a number of considerations associated with using this type of evaluation system are presented below.

Evaluator ratings of client behaviors and adjustment on the McDonald scales would appear relevant to the vocational evaluation of deaf clients. In particular with low-achieving individuals. Such scales can provide the evaluator a systematic and directed approach to clinical observations, recording, and analysis. Focus of the evaluation process in this situation can then be more productively directed to client performance in functional terms rather than foregoing evaluation because the client lacks the requisite language skills to take paper and pencil tests. Watson (1971) and Hurwitz (1971) in reporting on the use of evaluator-supervisor ratings of severely handicapped deaf adults, both found rating scales to be the most valid and reliable indices of rehabilitation potential in their clients.

Nevertheless these potential advantages do not necessarily apply with any and all rating scales. The evaluator using the McDonald, for example, should be aware that no empirical validation data are provided by the system developers. Descriptions of the normative group are sketchy and incomplete at the best. The lack of work sample face validity, and a reliance on classification systems which themselves have not been validated, also presents problems. Further, the system was designed for use in evaluation of mentally retarded clients in a workshop setting. Its use and applicability with deaf clients or other disability groups in different settings (other than workshops) requires further investigation.

But the potential of the McDonald should not be overlooked. Behavioral scales in the system offer some definite advantage in use with deaf clients. These advantages merit consideration and further development.

Systematic Approach to Vocational Evaluation (SAVE)

The SAVE is a new vocational evaluation system which was commercially marketed in the Fall of 1976. Developed by the M.S. McDonald Evaluation & Training Center, a State-operated facility for mental retardates in Rome, Georgia, SAVE will be available as soon as a copyright and clearance can be obtained from the State of Georgia. Although incomplete, current information indicates the SAVE effectively integrates a program of occupational information and exploration into the work evaluation process.

Organization. SAVE is based on 16 Worker Trait Groups as defined in the D.O.T. Comprised of 31 work sample tasks and a number of evaluator behavioral rating scales, test results are grouped according to their measurement of the 16 Worker Trait Groups.

Lacking a listing of the work samples and/or Worker Trait Groups in the SAVE, the following system procedures are presented in narrative forms:

- Phase 1. Clients view a sound-slide presentation (also cassette, transparencies, or printed) based on 16 Worker Trait Groups. Each job field presented is related to the more common job placements obtained by McDonald Center clients. Individual clients then select those job fields s/he finds most interesting.
- Phase 2. Clients next take job samples related to the job fields (they) identified with in the sound-slide presentation. Job samples administered at this point are designed to measure worker requirements of the particular Worker Trait Group(s) selected by the client. The process of job sample evaluation tends to "snowball"; for example, when a client's physical capacities have been defined, the information is related to the physical requirements for all 16 Worker Trait Groups.
- Phase 3. When the individual client completes all job samples related to the Worker Trait Groups s/he expressed interest in (sound-slide), then s/he is terminated from evaluation. The evaluator would then discuss the results with the client and provide recommendations for employment based on the work sample evaluation.

Time of Administration. Administration of SAVE requires approximately three to five days per client. Several clients can be evaluated at one time, or, small groups of clients can be evaluated simultaneously.

Norms. No normative data is available at this time, but are being collected on clients evaluated at the McDonald Center. The present norm group is comprised primarily of educable mentally retarded clients. Commercial marketing will encourage SAVE purchasers to collect and develop additional normative data on other client groups in various settings.

Process. There are no provisions for pre-screening, but some of the tasks are sequential in nature. For example, clients must be able to successfully complete a ruler reading test prior to starting a carpentry sample. The entire SAVE system is, in effect, a screening process for the 16 different Worker Trait Groups.

Administration. SAVE work sample directions are mostly oral or written. Several samples are demonstrated, and two are diagrammatic. Evaluators working with deaf clients would need to translate the sound-slide presentation, oral and written work sample directions into manual communication and/or captions geared to a third-fourth grade reading level.

Where indicated, clients can repeat samples as repetition will not affect ratings. On the other hand, when the evaluator needs to assist the client complete work tasks, the ratings are affected.

Scoring. Individual clients are given ratings of AA (Above Average), A (Average), or BA (Below Average) on each SAVE work sample and Worker Trait Group. Cut-off scores for each Worker Trait Group are provided in the SAVE Manual.

Training. Training in use of the SAVE is optional. The M. S. McDonald Center provides evaluator training in use of the SAVE at its Rome, Georgia facility.

General Comments. The most promising feature in the SAVE system for use with deaf clients is its sound-slide presentations of various job fields related to 16 major Worker Trait Groups. McDonald's plans to expand this to 47 different Worker Trait Groups can only enhance SAVE's potential use with deaf clients. Supplemented by captions and/or manual communication interpretation of the narrative, the slide presentation could be readily adapted for occupational information and exploration with deaf persons.

Face validity of the subsequent work sample tasks is also enhanced as the client would be working on those specific tasks related to the job areas s/he selected from the sound-slide presentation. The existential nature of this process is particularly effective in that it encourages the client to choose areas of work, explore these areas, and to change areas if indicated by his or her experience with the work samples.

Limitations of the SAVE are evident in that it attempts to assess only the client's current level of vocational readiness. SAVE makes no provisions for pre-screening, repetition of samples, or built-in-learning. Measurements are thus temporal, indicating only where an individual is at when s/he worked on a particular work sample. This problem in vocational assessment is not unique to the SAVE, however, and is mentioned here only to bring the reader's attention to this basic procedural constraint.

Singer Vocational Evaluation System (Singer)

The Singer Vocational Evaluation System comprises film strips and work samples which provide an integrated process of occupational information and work evaluation in 17 work stations (Gannaway & Caldwell, 1971). Based on entry level industrial norms in Rochester, N.Y., the Singer presents both, a great deal of occupational information, and a high degree of work sample face validity for the client. Very high level occupations as well as simple assembly operations are included, making the Singer appropriate for high-achieving clients as well as low-achieving individuals.

Although major revisions in instructional format and hardware may be required for its ongoing use with deaf clients, the Singer merits careful consideration. Efforts underway to modify the Singer for use with deaf persons are discussed later in this section.

Organization. The seventeen (17) work stations in the Singer encompass a broad range of job fields. These include:

1. Basic Tools
2. Bench Assembly
3. Drafting
4. Electrical Wiring
5. Plumbing and Pipe Fitting
6. Carpentry and Wood Working
7. Refrigeration, Heating, and Air Conditioning
8. Soldering and Welding
9. Office and Sales Clerk
10. Needle Trades
11. Masonry
12. Sheet Metal Working
13. Cooking and Baking
14. Small Engine Service
15. Medical Service
16. Cosmetology
17. Data Calculation and Recording

Each of the 17 job sample stations is independent of the others. Client performance on each work sample is assessed in relation to the specific job field(s) from which the sample was derived.

Time of Administration. Time required for clients to complete the system is not specified. Singer estimates, that on the average, most clients can complete all 17 work stations in ten (10) days.

Norms. Validation of the Singer system was initially based on entry level industrial norms in Rochester, N.Y.. No data on the initial validation group nor of subsequent research is reported. A number of evaluation

programs use the Singer with deaf clients, but none have reported on their experience or efforts to develop norms for their clients.

Process. The manual does not provide for pre-screening. However, client skills should be ascertained prior to placement on a station which requires previous academic skills (e.g., use of a ruler). The individual evaluator would need to analyze the prerequisite skills required for each station to guide his or her efforts to construct pre-screening procedures.

Administration. The current format of the Singer system includes a teaching machine with film strips accompanied by oral instructions which are given via a cassette tape through headphones. The method of administration could be changed to captioning the titles at a lower reading level (2nd-3rd grade) to encompass the reading abilities of most clients, and/or changing the slide-sound presentation to a film loop with an interpreter signing the instructions. Since the primary purpose of this system, as it is currently used, is to provide occupational information to the client, the resulting change in standardization should present few procedural problems.

Evaluators are further encouraged to provide whatever assistance clients may require. This provision permits the evaluator working with deaf clients extensive flexibility in improvising means to communicate work task instructions.

Scoring. The emphasis in Singer scoring is on the finished product. Evaluators are instructed to check client progress at certain stages, however, as some process scoring is involved.

Training. No specific training in the use or administration of the Singer is required for purchase of the system. However, as with other systems discussed here, it is expected that evaluators using the Singer are trained and experienced in clinical assessment techniques and procedures.

General Comments. The Singer could be modified for use with deaf clients. A major effort in this direction is now underway at the Florida School for the Deaf in St. Augustine, Florida. However, the translation of the instructions into manual communication or captions is a monumental undertaking. As in any test validation procedures, extensive standardization, reliability, and validity research is involved in this effort. The promise of the Singer, for occupational information and exploration as well as vocational evaluation efforts with higher achieving (e.g. 5th grade or higher reading achievement) deaf individual certainly merits the investment.

High face validity in the work samples and occupational information provided by the Singer are its most positive features. Appropriately modified, the deaf client could obtain a great deal of information about the job fields included in the system. By the very nature of the Singer, the client can relate the work samples to his/her own "occupational aspirations" or

explore different job fields as part of the vocational decision making process (Gannaway & Caldwell, 1971).

As currently available, the major disadvantage or problem in use of the Singer with deaf clients is the *major* revisions required in Singer instructions and hardware. Although some programs (e.g., Winston-Salem, N.C. Goodwill Program for the Deaf) find it feasible to have evaluators administer the Singer to deaf clients on a one-to-one basis, this approach is not generally feasible nor desirable. Maximum effectiveness would be in a major revision in instructions and hardware to a visual modality (e.g., captions and/or manual communication), followed by norming and validation with deaf clients groups.

The high level occupations presented by some of the Singer pictures may have mixed impact with deaf clients. Some clients with the potential, may, for the first time be exposed to and interested in pursuing higher levels of occupational attainment. Conversely, other deaf clients may acquire unrealistic aspirations for occupations, beyond their capacities. This double bind applies with any client group, and should not prove a problem with deaf clients in those instances where realistic feedback, counseling and guidance are built into the evaluation process.

Talent Assessment Profile (TAP)

Marketed by the Talent Assessment Programs of Des Moines, Iowa, the TAP provides information about client dexterity and visual discrimination (Nighswonger, Wiltun, & Maurinek, 1973). Primarily assessing specific clusters of innate abilities, the TAP appears particularly useful in the initial assessment phase to identify possible starting points for further vocational evaluation and exploration.

Organization. There are eleven (11) tests, grouped in eight (8) areas:

1. Structural and Mechanical Visualization: Test #1
2. Discrimination Tests #2, #3, #4
3. Dexterity—No Tools: Tests #5 and #6
4. Fine Dexterity Test: Test #7
5. Dexterity with Larger Tools: Test #8
6. Circuitual Visualization: Test #9
7. Retention of Structural and Mechanical Detail: Test #10
8. Structural and Mechanical Visualization in Greater Depth: Test #11

Time of Administration. An assessment time of approximately two (2) hours is usually needed. This may vary dependent on the individual client.

Norms. Normative data is available on each of the individual work tasks. The mean and standard deviation of each task are reported. Norms

for seven (7) different client classifications have been developed, and development of local norms is encouraged.

Process. There is no mention of a need for pre-screening. Evaluators are encouraged to have current and pertinent psychological, academic, and medical test results to combine with the TAP results to "give a very real picture of an individual" (Nighswonger, Wiltun E. and Maurinek, 1973). None of the tests are of the pencil and paper type. Each subtest was designed to measure specific clusters of innate abilities. As such, previous academic experience is not a factor, so pre-testing is not necessary.

Nighswonger, et. al. (1973) state that "It is seldom necessary to give all the tests to each person. Practiced relators (evaluators) learn to quickly select tests that appear most appropriate for a pupil in view of his background and interests."

Administration. The work tasks are administered through a combination of verbal instruction and demonstrations. Oral instructions would have to be supplemented, by manual communication in evaluation of deaf clients. Since signs for such phrases as "tighten bolts with a screwdriver" or "move pegs with your hands," are translated straightforward, the demonstrations may not require much, if any alternation. The directions for testing indicate that it is necessary for the evaluator to ensure the client understands the instructions.

There are no provision for re-administering samples. However, should the evaluator need to check the client's ability to learn, then re-administration of certain samples may be indicated. Test #10 is a re-administration of Test #1 and was specifically designed to measure the client's retention of previously learned materials.

The directions for testing do not indicate what should be done about client need for assistance. It is stressed that the evaluator ascertain client comprehension of instructions prior to beginning the task. If administering the tasks to a deaf person, the evaluator should observe the client's performance and provide assistance only if needed.

Scoring. Clients are scored on the basis of time required to complete the task with product and other errors being converted to additional minute(s) penalties. The results are graphed on a norm scale to provide a profile of the client's performance. A talent quotient (T.Q.) is also provided

Training. Evaluator training is both required and available through TAP.

General Comments. With the necessary instructional modifications, the TAP could be used with hearing impaired clients to provide a rough estimate of abilities within two (2) areas. These would include the areas of gross and fine finger dexterity and structural visualization.

Completion of the TAP yields a talent profile that can be used to predict possible client vocational areas. There is no keying with the Dictionary of

Occupational Titles. Each test supposedly relates to a group of jobs which (a few) are listed as examples.

One of the major weaknesses of TAP is that a general vocational prediction is made on the basis of the client's performance on only a few (1-3) tests in two ability areas. This prediction is based on a 1.5 hour test; and even though the integration of other data is recommended, the tests themselves, in addition to low face validity, do not account for such factors as motivation and persistence which will be key elements in client's attainment of some jobs (i.e. craftsman, structural engineer, etc.).³

Until more definitive research is available on use of the TAP with deaf clients, it appears most appropriate as an initial assessment system. As with other work sample systems, the results of the TAP itself, to be useful, needs to be supplemented by and integrated with other vocational evaluation data (e.g., psychometric, job samples, job tryout) on the individual deaf client.

Testing, Orientation, and Work Evaluation Rehabilitation (TOWER)

The TOWER vocational evaluation system has become the most widely used approach to work sample assessment in rehabilitation. Developed by the New York Institute for the Crippled and Disabled (Institute for the Crippled and Disabled, 1967) the TOWER contains 94 work samples in fourteen broad occupational families. The forerunner of work sample evaluation systems. TOWER is used extensively in rehabilitation facilities, and more than 250 vocational evaluators have been trained in use and administration of the system (Rosenberg, 1970; Nadolsky, 1971).

Popularity of the TOWER is, in part, related to the high degree of face validity presented by the work samples. TOWER work samples also provide clients with pertinent occupational information about the fourteen broad occupational families sampled by the system.

Instructions for the TOWER are very verbal and require approximately a seventh (7) grade reading level, suggesting it may be more appropriate for deaf clients who have the required reading skills. However, a number of rehabilitation centers have found TOWER useful in the vocational evaluation of low-achieving and multiply handicapped deaf clients (e.g., Bevil, 1971; Rice, 1972; Pimentel, 1969; Crammate, 1968). It is common practice to modify portions of the TOWER for use with deaf clients, but no reports have been published by those programs which have developed effective modifications.

In view of its wide recognition and use, the TOWER merits consideration by evaluators working with deaf clients. With appropriate changes

in TOWERs' instructional format, the system could be effective with the overall deaf client population.

Organization. The 94 work samples of the TOWER are grouped into the following 14 areas of work:

- | | |
|--------------------------|-----------------------------|
| 1. Clerical | 8. Machine Shop |
| 2. Drafting | 9. Mail Clerk |
| 3. Drawing | 10. Optical Mechanics |
| 4. Electronics Assembly | 11. Pantograph Engraving |
| 5. Jewelry Manufacturing | 12. Sewing Machine Operator |
| 6. Leather goods | 13. Welding |
| 7. Lettering | 14. Working Assembly |

Time of Administration. Approximately fifteen days are required for completion of the TOWER system.

Norms. Norms were developed at ICD, in New York City. The norm population group was not described or specified.

Process. Clients should be pre-screened prior to beginning the TOWER system. TOWER itself does not provide pre-screening devices with the manual, so the evaluator will have to analyze the essential basic skills involved in each task and develop tests to measure them. Reading comprehension is particularly important to client understanding and following task instructions.

The sampling sequence is progressive within the 14 major areas. The choice of an area depends on client interest and/or the plan of evaluation.

Administration. The TOWER system relies heavily upon written instructions, which are supplemented with verbal explanation and demonstrations as needed. The written instructions are written on a grade level (approximately 7th grade) which is too high for most deaf rehabilitation clients. The instructions would have to be re-written on a lower level using a vocabulary comparable to common sign language.

Since many of the work samples are instructional in nature, the evaluator could teach the required concepts. An example of this is found in the area of art concerning perspective. Instead of letting the client read about foreground and background, the evaluator could set up an example situation showing how things that are close to the drawer look bigger than things that are far away. The "show and do" approach could be used to teach such things as use of needle files and electric drill press from the jewelry manufacturing area.

The repetition of work samples is encouraged for upgrading performance. This could be particularly useful for the deaf client who appears to have potential but has performed poorly. Repetition may yield a learning curve and indicate potential.

The question of providing specific assistance is not clearly answered. However, the evaluator is instructed to ascertain that the client understands the instructions prior to beginning the task.

Scoring. Emphasis is on the quality of the finished product. But both time and quality scoring are involved.

Training. Training is both required and available. It is offered at ICD and requires two (2) weeks.

General Comments. The TOWER system has several positive features of which two would probably have the greatest significance for a hearing impaired client. These are (1) high face validity in the work samples which permits the client to relate the tasks to jobs performed in industry, and (2) the system's stress on a realistic simulation of an industrial setting (environment).

TOWER also provides the client with the opportunity to gather and internalize significant amounts of occupational information to aid in career choice. In addition, TOWER job areas are related to the Dictionary of Occupational Titles in that specific six digit codes are provided for each area.

Some of the negative features for use of the TOWER with deaf clients are (1) a great deal of work would be required to modify the written instructions for use by a deaf client population, and (2) the job areas were developed for ICD's use in New York City and some may not be appropriate for other geographical areas, especially small urban and rural areas. As part of their continuing research, TOWER system developers suggest controlling for these two negative features by modifying test materials to meet the needs of particular client groups. Although such changes may make the TOWER more appropriate and meaningful, modifications usually invalidate standardization.¹

However, the relative merits of the TOWER for use in evaluation of deaf clients, and the system's wide recognition and utilization in vocational rehabilitation centers which serve deaf clients suggest that provided the leadership and means, deafness rehabilitation might find it desirable and feasible to develop a modified version of the TOWER for deaf clients. Many adaptations are already in use, but have not been systematically standardized, normed, nor reported in the literature. Interested readers or evaluators using the TOWER (or adaptations of the system) with deaf clients are encouraged to share and/or pool their collective thinking and experiences in modification of TOWER.

Wide Range Employment Sample Test (WREST)

WREST was designed and normed for use as a vocational evaluation system to ascertain workshop client placements (Batterbusch, 1973; Mor-

ley, 1973). Developed by the Guidance Association of Delaware, the WREST contains ten work samples which are related to work stations commonly used in sheltered workshops.

In addition to assessing client ability to perform workshop tasks, the WREST provides information which can be used to determine general psycho-motor coordination, work habits, basic counting skills, and attention span. All are measures which can be generalized to non-workshop employment potential (i.e., competitive employment) as well.

The simple, concrete nature of WREST work samples make them readily adaptable for use with deaf clients. The system appears to have particular potential in the vocational evaluation of low-achieving and severely disabled deaf clients.

Organization. The ten (10) individual work samples in the WREST are:

- | | |
|---------------------|--------------------|
| 1. Folding | 6. Tags |
| 2. Stapling | 7. Swatch Pasting |
| 3. Bottles and Pegs | 8. Collating |
| 4. Rice Measuring | 9. Colors |
| 5. Screws | 10. Pattern Making |

Time of Administration. Approximate time of administration for one client is 90 minutes. For three to six clients in a group, the WREST requires two hours.

Norms. Norms were developed by administering the WREST to 300 workshop clients at the Wilmington, Delaware Opportunity Center, Inc. (OCI) and 100 employed workers. No population characteristics such as age, handicap, or jobs performed are included in the manual.

Process. Pre-screening is not required. Considering the simple, non-academic nature of the tasks, no screening would be required.

There is no suggested sequence of administration. Work samples can be administered in the order desired for the individual client.

Administration. Task instructions are oral and demonstrated. Such verbal instructions as "fold paper" or "put washer, then nut on bolt" can be readily translated into manual communication and/or gestures. The evaluator modifying instructions should attempt to standardize the signs and significant gestures used in test administration.

There are no provisions for repeating samples or providing assistance. However, it is suggested that the tests can be re-administered at certain intervals to derive a learning curve for the client. No specific time interval is given.

Scoring. Both time and product errors are scored. Scores are then converted to stanines using the workshop and industrial norms provided in the manual.

Training. No training is required for evaluators administering the WREST.

General Comments. The WREST system may have most practical use with severely or multiply-handicapped deaf clients functioning on an extremely low level. The simple, direct instructions of WREST work samples can be readily conveyed to even the more severely communicatively limited deaf client.

Although, on the surface the WREST appears primarily for workshop placements, client performance on the work samples can be used to assess "client employability" as well. Factors inherent in the work samples, such as following directions, psycho-motor coordination, and problem solving behaviors, are all important to general work performance. Industrial norms are provided in the manual to assist the evaluator-client assess how the client's performance on the samples compare with workers in various industries.

Botterbusch (1973) cites two inherent weaknesses in use of the WREST with general clients, which are equally applicable to evaluation of deaf persons: It lacks systematic procedures for observation of client behavior; and the WREST was developed and designed for use with clients at OCI, and the norm group may not have universal applicability. A third major limitation in the WREST is the lack of face validity of work samples in the system. Evaluators who would usually help their clients see (understand) the relationship between performance on the WREST work samples and determination of vocational potential, may not be able to do so with deaf clients, particularly deaf clients with limited communication skills. Consequently, the low face validity of this system may be a major problem for many deaf clients who otherwise might benefit from evaluation on the WREST.

Evaluators using the WREST may find it valuable in evaluation of the general vocational abilities of deaf clients. Provided with an initial WREST assessment of a deaf client's general work characteristics and abilities, the evaluator could then proceed to evaluate more specific job skills and/or aptitudes and interests. The latter step would usually require use of work samples, on the job tryouts, or other evaluation procedures more oriented to specific job fields.

VALPAR

VALPAR is a vocational evaluation system which primarily measures general physical abilities and skill discrimination. Developed by the Valpar Corporation in Tucson, Arizona, the system contains 12 work sample components (Valpar Corp., 1974).

VALPAR provides a limited number of job related work samples, but appears most useful for the initial phase of the vocational evaluation

process. As such, it might be productive as a screening test for deaf clients. Particularly as a measure of the individual deaf client's capacities for various work tasks. Combined with information related to the individual's vocational interests, the VALPAR could be used as a starting point for additional vocational exploration.

Organization. The VALPAR system is divided into twelve (12) work sample components as follows:

1. Small Tools
2. Size Discrimination
3. Numerical Sorting
4. Upper Extremity Range of Motion
5. Clerical Comprehension and Attitude
6. Independent Problem Solving
7. Multi-Level Sorting
8. Simulated Assembly
9. Whole Body Range of Motion
10. Tri-Level Measurement
11. Eye-Hand-Foot Coordination
12. Soldering and Inspection (Electrical)

Time of Administration. Approximately ten hours are required for administration to one client.

Norms. VALPAR norms were gathered by a research and developmental project in Tucson, Arizona. Based on a rehabilitation evaluation center client group, the current norms are still in the validation stage. But with continued gathering of information, their quality should improve. Among other validation efforts, VALPAR is in the process of developing norms on worker performance in job areas related to the work samples.

Process. There are no provisions for pre-screening and none would be required. No specific sequence for administration is given and the system's developers do not state it is necessary to give the whole system to each client.

Administration. VALPAR can be administered individually or in small groups. There is an individual manual for each work sample that contains very specific instructions to the client and evaluator. Only minimal amounts of demonstrations are involved, as most of the instructions are verbal. Instructions for deaf clients would probably necessitate a change to manual communication.

Due to the diagnostic nature of the samples, repetition would probably not provide additional information. Clients are permitted a trial or practice period prior to administration of each sample which should minimize the possibility of error through misunderstanding.

The manual encourages the evaluator to observe client performance and provide assistance by paraphrasing instructions or providing demonstrations. These provisions permit evaluators working with deaf clients to improvise in whatever manner is indicated to facilitate client understanding of instructions.

Scoring. Both time and product error scores are recorded to yield a total performance percentile score for each sample. There are no cut-off scores. The scoring is not as useful as the behavioral information obtained by observation of client performance on the specific job tasks related to each sample.

Training. Training is available but not required. The manuals provide very specific written instructions. Consequently, the need for training is minimal.

General Comments. The VALPAR System primarily measures general physical abilities and provides for some skill discrimination. Most hearing impaired clients could probably take all the samples except telephone answering (which involves client listening to a taped conversation). The samples are all recyclable with Part 2 of the sample constructed so that the sample is set up for another client. Each sample is related to a D.O.T. Worker Trait Group and some sample six digit code jobs are given. The manuals report a test-retest reliability coefficient range from 0.85 to 0.97 for the samples.

This system could be used with deaf clients if the instructions were changed to manual communication and more standardized demonstrations were included. The individual evaluator serving deaf clients may find it desirable and feasible to develop his own standardized (modification of) set of instructions.

Similar to several other systems (e.g., Hester, TAP) presented in this chapter, the VALPAR appears particularly useful for initial assessment of general physical abilities and capacities. Use of the system in vocational evaluation of deaf clients would best be in initial assessment, supplementing the VALPAR with job samples, job tryouts, and related evaluation procedures.

Technical Considerations In Use of Work Sample Systems with Deaf Clients

Each of the nine work sample systems reviewed here were designed for specific population groups and purposes. Table 7.1 presents a summary of how each system might best be used with deaf clients. The major disadvantages of each system and modifications for use with deaf persons are summarized in Table 7.2.

Table 7.1
Suggested Uses of The Nine Vocational Evaluation System in Evaluation of Deaf Clients

System	Characteristic type of Deaf Client to be Evaluated^a	Possible Use of the System	Major Advantages for Use with Deaf Persons
HES	Any Client	Initial screening to determine client's present abilities as related to D-P-T-in DOT	Provide basic information to start evaluation process or to supplement other data.
JEVS	In residential H.S. or graduate of residential H.S., some samples for any client	Selection of one or more of the 10 worker trait groups and some occupational information	Instructions adapted with minimal difficulty; some face validity for client; and most clients can perform the tasks.
McDONALD	Mentally retarded	Broad classification into one of four categories from day care to competitive	Provide basic information about client; possible starting point for further evaluation.
SINGER	Sr. High school student or graduate, very oral or with high verbal ability	Occupational information	High face validity with a great deal of information for the client.
TAP	Clients functioning on a low achievement level	Provide client ability information about dexterity and discrimination	Provide basic information; possible starting point for further evaluation
TOWER	Sr. high school student or graduate with oral or high verbal ability	Evaluation for one or more of the 14 areas and occupational information	High face validity; and may directly relate to some occupations in a client's home area.
VALPAR	Jr. high or high school, some samples, could be used with any client	Determination of vocational interests; assessment of physical abilities	Measures physical capacities for various work tasks
WREST	Workshop candidate or low level multiply handicapped	Workshop placement	Appropriate (station) placement in a workshop.
SAVE	Any Client	Selection of appropriate worker trait group(s)	Flexible; allows for a great deal of client involvement

^aThis is not meant to categorize clients but to serve as a rough guide for each system.

Table 7.2
Major Disadvantages of the System and/or Its Modification
for Use with Deaf Persons

P.E.S.	1. Very low face validity which may cause downward trend of scores. 2. If evaluator is not familiar with deafness, then assigned scores could easily be inaccurate and inflated or deflated depending on client's oral skills.
JEVS	1. Would require <i>major</i> revision of instructions. 2. Would require construction of pre-screening devices for some samples (register reading, payroll, etc.) 3. Some samples (tile sorting, nut packing, etc.) may be boring to high level clients and lack face validity.
McDONALD	1. Standardized tests used were not developed for use with deaf persons. 2. Subjective rating scales may cause downward scores if evaluator does not understand the disability of deafness. 3. Primarily for application with deaf mental retardates, use with higher functioning clients problematic.
SAVE	1. If samples from system are used, would require revision of instructions. 2. Burden on evaluator to define appropriate Worker Trait Groups and construct measurement devices.
SINGER	1. Would require <i>major</i> revisions in instructions and hardware. 2. Pictures of related jobs tend to show very high level occupations and may cause deaf client to acquire unrealistic aspirations.
TAP	1. Would require modification of instructions. 2. Low face validity may affect client performance.
TOWER	1. Very dependent on written instructions, which would require revision to manual communication or <i>major</i> revision of written materials to 2nd-3rd grade level. 2. The job areas evaluated may not relate to local jobs.
VALPAR	1. Almost entirely dependent on verbal instructions, would require revision to manual communication and standardized gestures-demonstrations. 2. Psychometric nature of some of samples may handicap clients with verbal deficits.
WREST	1. Would require revision of instructions. 2. Low face validity may cause downward scores. 3. Would not be useful evaluating high or average-achieving deaf clients.

Perusal of Table 7.1 and Table 7.2 readily suggests that although many advantages occur in using commercial work sample systems with deaf clients, there are also very real disadvantages. Modification of these systems for more effective use with deaf persons is both desirable and feasible. The challenge to deafness rehabilitation is the obvious one of marshalling its energies and resources to development and validation of work samples for deaf clients. The following chapter provides guidelines for the development of such work sample tests.

Recommended Work Evaluation Procedures

Conceivably, all of the work sample systems described here could be modified for use with the hearing impaired client. As the primary consideration for effectively working with this disability group, the client's method of communication is of utmost importance. If the evaluator is to adequately measure the deaf client's performance and the client is to gain maximum benefit from the program, then communication must take place.

Some of the general conclusions concerning systems' adaptations are:

1. The method of instruction will usually have to be changed. One possible method could be through developing a manual communication instructional vocabulary. This would facilitate re-standardizing the samples on a deaf client group.
2. Use demonstrations when necessary and pantomime when no exact sign exists or the evaluator does not know sign language. Again, the evaluation team should develop standardized (consistent) demonstration and pantomime procedures.
3. If the samples require previous academic experience, do not assume the client meets these requirements just because he says "I know" or has attended school. It may be necessary to develop pre-tests to measure specific skills required for successful completion of the work sample. Academic achievement skills often have been assessed during the initial assessment phase, but there may be certain skills required for specific job tasks which were not previously tested.
4. If a deaf client does poorly on a sample, find out why. If necessary, re-administer the sample, taking extra care to make sure the client understands the instructions.
5. None of the systems have collected normative data on hearing impaired clients. Evaluators using the various systems need to remain cognizant of the complications inherent in using the work samples with a client group that was not included in the normative process.
6. The interested evaluator is encouraged to modify and validate (see Chapter 8 for procedures) those job samples s/he finds important to vocational evaluation of deaf clients.

7. Most of the work samples in the various systems can be administered to deaf clients with basic academic (3-4 grade) and communication (signs or speech) skills. The major modifications in administration procedures would consist, in most instances, of signed instructions (manual communication) instead of written, additional use of demonstrations, and use of pantomime and gestures. However, evaluation of the illiterate and noncommunicating deaf client may limit the evaluator to use of only those samples which involve concrete physical operations that can be administered through the "show and do" approach.

8. If the deaf client is to benefit fully from evaluation s/he should:

- a. understand why s/he is in evaluation.
- b. see that the work samples are related to the world of work, and recognize their relevance to his/her own vocational future.

9. In communication with the deaf client, the evaluator needs to accept the client as an individual, and use whatever method of communication is most appropriate and meaningful in respect to the individual client's level of communication skills.

ENDNOTES

1. Much of the general data included in this section was taken from "Comparison of the JEVS, Singer Graflex, and TOWER Work Evaluation Systems" written by Dr. Dennis J. Dunn.
2. Much of the general information in this section was taken from the manual for the McDonald Vocational Capacity Scale as printed in *Vocational Evaluation Research Materials and Papers*, edited by George S. Baroff.
3. Much of the general information about TAP was taken from "Talent Assessment Tests" by Wilton and Maurine Nighswonger.
4. General information was taken from Raymond E. Morley's article, "The Wide Range Employment Sample Test."
5. All of the information concerning client flow process and SAVE assessment techniques was obtained during an interview with Wayne Clemmons, Developer of the system and Coordinator of the M. S. McDonald Evaluation Center.
6. Most of the information concerning the Hester Evaluation System was obtained through Ms. Sally Taylor, Manager, MES. Some additional information was taken from the advertising pamphlet distributed by HES.

Chapter VIII

DEVELOPMENT OF STRUCTURAL WORK SAMPLES IN VOCATIONAL EVALUATION OF DEAF CLIENTS

Henry C. Smith

Commercial work sample systems available on the market do not assess all possible job fields nor are they appropriate with all client groups. Evaluators may need to construct and standardize their own work samples when commercial systems do not meet the needs presented by deaf rehabilitation clients. These evaluator-constructed tasks, often referred to as structural work samples, are similar to commercial work samples except that they are usually specific to a particular job field, industry, or client group. In rehabilitation practices, these structural work samples are usually developed to supplement, complement, or even modify the commercial (e.g., JEVS, TAP, TOWER) system(s) used in a particular facility.

The consensus of the Task Force was, that when appropriately developed, structural work samples can play a significant role in the vocational evaluation of deaf clients. Particularly as a means of developing work samples which are standardized, and normed on deaf client groups. Work samples which minimize speech, language, academic achievement, and hearing factors were seen both, as desirable and necessary in evaluation of deaf persons. As much, the Task Force recommended outstanding priority be given to the modification of existing commercial work sample systems, and/or the development of structural work samples which are valid and reliable with deaf clients.

Recommended procedures by which existing work samples and/or structural work samples can be constructed, normed, and validated for deaf clients are outlined in the present chapter. Procedures and techniques presented here are adapted from Nadolsky's (1970) outline for work sample development. Comments are added to the original outline for adaptation to use with deaf clients. No attempt is made or implied to improve the original outline (Nadlosky, 1970), which the interested reader might review for a more detailed discussion.

Nine Steps in the Development of Work Samples

Structural work sample development usually comprises a nine-step process. These nine steps are:

- I. Job Analysis
- II. Listing of all relevant traits

- III. Selection of traits to be measured
- IV. Determining the tentative criteria of success for each trait or trait combination to be measured.
- V. Determining the method(s) of validation
- VI. Work sample construction
- VII. Work sample standardization
- VIII. Validation
- IX. Cross validation

Procedures for Development of a Work Sample for Deaf Clients

Each step in the development of a work sample involves specific techniques, activities, and procedures. A step-by-step outline is presented here to describe the procedures involved (in specific steps), and to provide guidelines for the development of work samples for deaf clients.

- Step I. Conduct a job analysis by obtaining Dictionary of Occupational Titles (D.O.T.) definitions of each occupation within a particular worker trait group:
- A. Job analysis is the process of determining, by observation, interview, and study, the significant worker activities and requirements, as well as the technical and environmental factors associated with a specific job. It is the identification of the tasks which comprise the job, and, for the skills, knowledge, abilities, and responsibilities required of the worker for successful job performance (As defined in the Training Manual of the U.S. Dept. of Labor, 1965).
 - B. Worker traits involved in job analysis:
 - (1) Training time. Deaf clients often require a longer period of training in preparation for employment due to language and knowledge deficits. The nature, duration, and availability of skill training required for learning specific job skills are important considerations in selection of job fields for which work samples are to be developed.
 - (2) Aptitudes—Consideration should be given to the restricted life space of many deaf clients which provides fewer exposures to prevocational and preparatory work experiences, circumscribing opportunities for exploring the world of work and learning more complex skills (Gellman, 1965).

- (3) Temperments—Consider the different types of occupational situations to which the deaf client must adjust. Are job requirements compatible with the temperament of the target client group?
- (4) Interests—Ascertain the target groups' actual preference for, or rejection of the specific work activities involved.
- (5) Physical Demands and Environmental Conditions—The physical demand for Talking and/or Hearing (D.O.T.) is defined:
 - (a) Talking: Expressing or exchanging ideas by means of the spoken word.
 - (b) Hearing: Perceiving the nature of sounds by the ear.

Caution should be exercised in this area as many occupations, even though defined as physical, demand (Lemonds & Moss, 1974) other abilities (be present in the deaf client) such as lip reading, sign language, or reading and writing. It should be ascertained that job requirements do not directly require normal hearing and/or speech. Other conditions, such as employer or co-workers' experience with, or (proficiency in) communication with deaf clients and/or workers need to be considered also.

Environmental conditions should be assessed in terms of the safety aspects of the work situation:

- (1) Will the work situation create safety hazards or endanger the deaf worker (or co-workers) by the deaf worker's lack of hearing/speaking ability?
- (2) Would additional information or warning signs be necessary in the work area?
- (3) Would modifications such as lights or visual signals be needed?
- (4) Are alterations and modifications to accommodate the deaf worker consistent with, and have realistic application with the normal demands of the particular job involved?

Step II. List all relevant traits from the above job analysis and identify any alterations indicated for deaf workers.

- (a) Relevant traits are those factors which are common to several occupations within the worker trait group.
- (b) They should be listed as traits that a deaf individual must possess in relation to the required tasks or the tools used, or both.

- Step III. Selection of traits to be measured.
- (a) Select the trait or traits that are to be measured by the work sample.
 - (b) Identify items which are different or will need to be modified for use with deaf persons.
- Step IV. Indicate the tentative criteria of success for each trait or trait combinations to be measured.
- (a) Success criteria for each trait may be determined from one's own familiarity with the occupational group.
 - (b) It may be necessary (and beneficial) to contact employers of deaf workers, or other individuals who are more familiar with the occupational group to obtain success criteria for specific job tasks.
 - (c) A statement of the tentative criteria of successful performance on the work sample should be made.
 - (d) Many existing work samples may be effectively used with deaf clients if their instructional formats are altered from written or oral communication to a lower reading level or visual format.
 - (1) Although the work sample may be modified somewhat to evaluate the deaf person, a major point should always be kept in mind: the deaf person will eventually be required to compete with the general working population in the employment setting.
 - (2) Modifications or alterations of the work sample should, accordingly always be consistent with the normal demands of the occupational area.
- Step V. Indicate the method(s) to be employed in validating the work sample. The work sample can be validated against:
- (a) supervisors or employers rating
 - (b) job output
 - (c) self-rating
 - (d) program outcomes such as whether the individual was hired, promoted, fired, etc.
- Step VI. Work sample construction
- A. Instructions to clients—modality:
 - (1) Written instructions—should take into account the average reading level of the target group in developing sentence structure and defining occupational terms. For those job tasks where reading comprehension

skills are not directly related to task performance, it is recommended that the written instructions for deaf clients be on a third to fourth grade level.

- (2) Manual communication instructions—need to provide for clarity and conciseness with a minimum of finger-spelling. Avoid excessive wording and esoteric terminology. Use ameslan signs as much as possible. If unsure of regional usage, check with local deaf community leaders (or, the National Association of the Deaf). Most important, develop instructions which are readily understood and straightforward in actual test administration.
 - (3) Visual demonstration (models, photographs, samples, etc.)—could help alleviate the need for a high reading level as well as facilitate instructions.
 - (4) Safety precautions—regarding use of potential hazardous equipment and any special safety clothing and apparatus must be identified and described.
 - (5) Diagrams, work sheets, recording forms—should be constructed, if indicated by the nature of the job task(s).
- B. Client Work Sample Instructions should include—content:
- (a) Title of work sample.
 - (b) Objective of the work sample.
 - (c) Assessment description (skills, aptitudes, traits, behaviors, strengths, etc.)
 - (d) Job information (job title, demand, pay qualifications, training, working conditions.)
 - (e) Equipment and materials needed.
 - (f) Specific instructions for performing the task.
 - (g) Recommended instructional procedures to insure that most deaf clients will be able to understand the test directions.
- C. Instructions to another evaluator (Evaluator's Reference Manual) should include:
- (1) D.O.T. worker trait group name, code number, and page number (Volume II.)
 - (2) Title of work sample.
 - (3) General objective(s).
 - (4) Specific objective(s).
 - (5) Equipment and materials needed.

- (6) Standardized procedures for administering the work sample.
 - (a) Instructions should include specific manual communication signs to be used with various deaf client groups (e.g., college, low-achiever).
 - (b) Include special considerations or alterations related to the use of an interpreter to administer the task to deaf clients.
 - (c) Include demonstration techniques related to common usage by deaf persons.
 - (d) Include readministering process when applicable. Since the process, rather than the product, should be emphasized in work sample scoring it is usually unnecessary to readminister work samples.
- (7) Scoring Procedures
 - (a) Scoring by Process.
 - (b) Scoring by Product.
- (8) Tentative criteria of success related to scoring procedures.
- (9) Tentative Work Sample Interpretation.
- (10) Statement of the Methods of Validation.
- (11) Appendix to the Evaluator's Reference Manual should include:
 - (a) All D.O.T. definitions, code numbers, and other pertinent data for the Worker Trait Group in question.
 - (b) A listing of all relevant traits—those traits to be measured—should be highlighted.
 - (c) Scoring form.
 - (d) Diagram or drawings of equipment, if indicated.
 - (e) At least five example score forms demonstrating scoring procedures.

Step VII. *Work Sample Standardization*

Following construction of the work sample, the evaluator will need to develop standardized procedures for administering the task(s) to deaf clients. Standardization implies uniformity of procedures in administering and scoring the test with the selected norm group (Anastasia, 1966). Detailed directions are required to secure uniformity for:

- A. Test Instructions
 - (1) Materials
 - (2) Time limits

- (3) Test directions
 - (4) Preliminary demonstrations
 - (5) Assistance (if any)
 - (6) Communication modality
- B. Test Materials and Environment
- (1) Work station
 - (2) Surroundings
 - (3) Lighting
 - (4) Physical arrangement (i.e., standing, setting)
- C. Normative Group on which test is standardized
- (1) Standardization sample
 - (a) Biographical characteristics
 - (b) Types of clients (e.g., workshop, school, employed)
 - (c) Number of clients in various categories
 - (d) Description of procedures (i.e., time, type program)
 - (2) Test Performance
 - (a) Average performance (scores)
 - (b) Time to complete task(s)
 - (c) Number of errors
 - (d) Degree of variation above and below average

Step VIII. *Validation Procedures*

Before the structural work sample which was standardized and normed (see Step VII) on deaf clients can be released for general use, a thorough, objective validation study must be conducted. Validations procedures involve the determination of the reliability and the validity of the work sample in specified situations.

- A. Reliability—refers to the stability or consistency of the test. Several types of reliability measures are involved in work sample construction. The evaluator may choose one or more of the following procedures to measure the reliability of the structural work sample test.
- (1) *Correlation coefficients* which express the degree of correspondence, or relationship between two sets of scores. Client scores on the work sample may be correlated with other measures such as performance on other tests, supervisor or evaluator ratings, or perhaps with employer ratings.
 - (2) *Retest reliability* which is simply the correlation between the scores obtained by the same clients on two administrations of the work sample test.

- (3) *Equivalent-form reliability* which involves testing clients with one form on one occasion and with another, comparable form on a second occasion, then computing the correlations between the two.
 - (4) *Split-half reliability* measures clients performance when split-half scores are obtained from a single administration of one form of test—by dividing the test into comparable halves (e.g., even-odd) for statistical study.
 - (5) *Inter-item consistency* measures the consistency of individual clients' responses to all items in a test.
- B. *Validity*—refers to the degree to which the test actually measures what it purports to measure. Four major categories of validity data are:
- (1) *Content validity* involves examination of test content to ascertain that it contains a representative sample of the behavior to be measured.
 - (2) *Predictive validity* is a measure of the effectiveness of a test in predicting some future outcome. For example, the probability that a client with a given performance score will be employable in a specific job field.
 - (3) *Concurrent validity* involves determining the relation between test scores and other indices of criterion status obtained at the same point in time. For example, correlations between clients test performance on the job sample and workshop supervisors ratings of client workshop performance.
 - (4) *Construct validity* assesses the extent to which the work sample test measures a "theoretical construct" or trait—such as age, intelligence, mechanical comprehension—or how it correlates with other test results—of various traits.

Step IX. *Cross Validation Procedures*

Cross validation of the work sample test would comprise the same procedures as for validation (see Step VIII), except that a different group of deaf clients would be given the test. Data on this new group of clients can be analyzed to determine the reliability and validity of the work sample test(s) when used with deaf clients other than those individuals included in the original validation process. The results of the cross-validation study can be used to ascertain the validity of the work sample test(s) as well as support, or discourage general use of the work sample in the ongoing vocational evaluation of deaf clients.

SITUATIONAL ASSESSMENT

The present section considers three variations for the vocational evaluation of deaf clients within realistic work situations. Expanding upon knowledge about the client's vocational assets, limitations, and potentials which was generated by prior phases of the evaluation process (i.e., psychological testing and work samples) three distinct settings are employed: the rehabilitation workshop, vocational training areas, and an actual job setting in the community.

These three areas are not mutually exclusive nor do they exhaust all possible situational settings. They are presented here as process guidelines and for consideration of the relative contributions situational assessments can make to the vocational evaluation process with deaf clients.

Innumerable situations are available for the evaluator to employ in assessment of deaf clients. It is important, however, that the evaluator base the decision of what situational assessments to employ, where they should be conducted, and the appropriate timing of each, on his knowledge and understanding of the individual client. Routine and careless client placement in various situations can sometimes prove more detrimental and counterproductive than good. Situational assessments are most productive when appropriate placements are made.

The approaches described here are designed to expose the client to realistic work situations. Each situation discussed presents the opportunity to obtain "third party" client observations and vocational assessment from supervisory personnel who have direct supervisory responsibility for the client while he is in the designated situation. Approximating the work environment or machines, tools and equipment of actual industrial operations, the situational assessment provides information not otherwise obtainable prior to actual job placement. To the extent they further identify, define, and contribute to the client-evaluator determination of the client's realistic vocational objective, situational assessments can comprise a significant component in the evaluation process.

Chapter IX

USING THE REHABILITATION WORKSHOP FOR VOCATIONAL EVALUATION

Horace Waters

This chapter considers the value and significance of using the rehabilitation workshop for evaluation. The basic validity of the utilization of the workshop for evaluation rests in the possibility that some skills, traits, or interests may be isolated, confirmed, or disproved quickly and/or reliably. In addition, the client may experience a change in self-awareness or expectations by participation in this phase of the evaluation process.

Work Experience

There are three or more general models for utilizations of a rehabilitation workshop as an evaluation vehicle. The first of these might be a working test or actual job experience using one of the jobs performed in the workshop. This approach is most feasible when the workshop is used as support component to the evaluation process. For example, a client may have completed the formal evaluation program available at a given facility. He may have identified a vocational objective and a specific job goal. At this point the evaluator may want the client to have an opportunity to confirm that decision through an actual work experience in the workshop. This evaluation procedure may well be used with any disability group. However, it is stressed here because the deaf individual involved in vocational evaluation often requires as many concrete or, "hands-on" work experiences as possible.

Vocational Exploration

A second approach may be indicated in those instances when a client has completed initial evaluation and identified specific D.O.T. worker trait groups. The client might benefit from hands-on work experiences at this point. The workshop could be employed to assist the client to determine his capabilities and interests as related to selected job groups, or possibly to isolate a specific job. Again, this will be the situation (or need) quite often because of communication, language, lack of environmental awareness and/or associated adjustment deficits. In this situation, the assumption is that although considerable progress was made in prior phases (e.g. psychological and work sample) of the evaluation process, large blocks of information remain to be gathered in order to produce a valid and reliable evaluation.

Vocational Direction

A third general utilization of workshop settings for evaluation purposes is in cases where a vocational direction could not be obtained through the use of other evaluation components. In this situation, all traits and work tolerances may need defining. This may occur more frequently with a deaf individual who has limited language skills than with other disability groups. This is probably the most crucial utilization of a workshop setting with deaf clients, particularly the "low-verbal." Formal testing techniques frequently cannot be used due to these clients' limited language skills. The evaluator's lack of appropriate communication skills may also be a factor. Behavioral observation of the client in a situation which closely simulates real work is one of the best evaluation techniques available in this situation. If the client cannot write legibly, or the client or evaluator cannot sign at a level which permits understanding, standardized tests may have to be discarded from the evaluation process. This does not mean that the client is not feasible for rehabilitation services, vocational evaluation, or competitive employment. Quite often the contrary is true. It simply means that the evaluator must search out and use techniques that allow the deaf client to perform at his maximum potential.

The three broad models presented here for utilization of the workshop in evaluation attempt to allow for widely differing evaluation units and levels of deaf clients. Quite often the evaluator will discover that the deaf evaluatee appears to have important characteristics that for some reason are difficult to identify and record. The evaluator must be able to select some vehicle that will permit the client to perform at his potential and at the same time allow observation and recording. It is at this point that the evaluator may want to utilize the workshop setting.

The Workshop as a Work Adjustment Environment

There are many possible techniques and procedures which can be employed with deaf individuals in the workshop setting. One primary need is for the evaluator to learn sign language and to gain experience in pantomime and role-playing. This may not always be feasible or possible, and even if this is achieved, the evaluator may face situations in which the client has no sign language or pantomime skills himself. The possibility of such events can be expected when working with severely disabled deaf individuals. Problems often arise even when the evaluator is highly skilled in manual communication and deaf himself. Use of the workshop for vocational evaluation of these individuals is often the method of choice. Many evaluation techniques will need little or no modification for the bright, literate, and more capable deaf client. However, the deaf client that vocational evaluators will see most frequently is often multiply handicapped and educationally retarded. This client group will often require an

extensive program of evaluation. Work, personal, social, and community adjustment services will often need to be utilized before vocational objectives can be considered. In such situations, behavioral observation or situational assessment will be the technique of choice, and the workshop providing a "total adjustment environment" is the more feasible and productive approach to vocational evaluation of deaf clients.

The tasks available in the workshop are extremely important elements when using that setting for evaluation of deaf clients. Are a variety of tasks available? Do the tasks to be performed incorporate elements that will allow observation of basic skills and traits? Can work sampling techniques be used in conjunction with production tasks? Of considerable importance here is that the evaluator not "lock in" the deaf individual to any one small group of jobs. In fact, this evaluation technique should be chosen when the client's skills and abilities are not readily measureable using standardized single-trait techniques.

The deaf client should be allowed the greatest possible opportunity for self-direction without lengthy and difficult directions. An orientation pamphlet can be made available for use by clients with adequate reading comprehension skills. If reading skills are not available, role-playing and peer modeling can be used. Client schedules, time card rack, work task assignments, production records, pay schedules, behavior charts or other pertinent information should all be posted in printed form. Where needed, color coding and graphing can be used to make all information as non-verbal and concrete as possible.

Severely disabled deaf clients often lack previous exposure to the process of learning vocational or work skills and lack information that is generally assumed in our society. Client experiential deficits will have to be dealt with as evaluation proceeds. For example; the client, performing a production task paid on a piece rate basis, may not understand the relationship of production to pay. He may not be able to count his production rate at all. He may have never had a need to do these things. Or, he may never have had the opportunity to learn a chain of work-related behaviors. Observation of exhibited behaviors that can be recorded to produce a reliable evaluation are limited only by the adaptation of present practices into more concrete non-verbal methods. The rehabilitation workshop appears to offer a viable means by which to achieve that objective.

Chapter X

USE OF VOCATIONAL TRAINING AREAS IN EVALUATION OF DEAF INDIVIDUALS

Kermit Cotter

Vocational evaluation of deaf individuals can be enhanced through the use of on-the-job evaluation. On-the-job evaluation is ordinarily defined as placing the deaf person in a real work situation in the community for the purpose of determining whether or not the individual has the necessary skills and aptitudes for the kind of job in question. This approach to situational assessment has proven beneficial for many deaf clients.

The assessment technique can also be effective using vocational training areas rather than jobs in the community. The method is the same. Following the preliminary evaluation the deaf client is placed in vocational training classes using the individual's interests as a starting point. The effectiveness of this approach depends on the extent to which the vocational training simulates actual job conditions. Evaluation of deaf clients by using vocational training tryouts can provide direction for training or direct placement of an individual in employment, or indicate the need for further explorations.

A basic premise of this approach is that the evaluator has determined that this particular individual is ready for training or employment and that the individual has no significant adjustment problems. These problems should have been identified and corrected prior to utilizing this evaluation method.

Face Validity

The use of vocational training areas for evaluation of the deaf client has several advantages that make its use attractive. Among the principal advantages of this method is its high face validity. Many evaluation techniques, although proven valid for skill identification, lack face validity. They just do not look like real work. It is difficult to convince the deaf individual that he should put maximum effort into a test or job sample consisting of tasks that bear no resemblance to the real occupation. He very often sees little relationship between moving the bolts from one board to another in the Bennett Hand Tool Dexterity Test and success in automobile mechanics. He readily admits that proficiency with the use of hand tools is important, but his interest is more concretely related to the use of these tools on an automobile engine. Clients often view standardized tests as a game and may not take them seriously. This may result in minimal effort and involvement on the individual's part leading to inaccurate information and assessment.

Placing this same deaf individual in a vocational training area where other people are engaged in the kind of work he is interested in and where that kind of work is the principal activity each day may have more face validity. Now the client may experience the feeling of involvement and accomplishment. The evaluation is no longer a game, but a serious situation in which he is aware that he must put in maximum effort if he wishes to succeed in the training area of interest.

Vocational Exploration

Another advantage in the use of vocational training for evaluation is the opportunities it provides for vocational exploration. Many deaf individuals have very limited knowledge about work in general and the types of employment available. When asked what they want to do, clients will often answer by naming an occupation he knows about. This may not be what the individual wants to do, but it may be the only occupation he knows by name. Clients from a residential school will often say they want to be a printer. The client may have little or no idea what a printer does all day, but knows that many deaf people go into printing and bases his decision on that limited knowledge. Evaluation in vocational training areas enables the deaf client to learn what is involved in each occupation and decide whether or not he can and will be happy in that occupation. More vocational information can often be gained by spending a few days observing the work taking place in a vocational training area than can be gained from several weeks in a class designed to teach vocational information. Observation of this nature also gives the deaf individual an idea of the conditions under which he would work. A person can learn what a mechanic does in the classroom, but seldom does a vocational information class provide samples of the grease and dirt encountered in mechanics work. This kind of information is readily apparent when a person views the actual work being done. Using vocational training areas for evaluation provides deaf clients an opportunity to broaden their vocational knowledge, facilitating the vocational decision-making process.

This method of evaluation also provides the evaluator an opportunity to substantiate the information previously gathered on the client. Job sample results can be confirmed by on-the-job evaluation (in training areas) where potential is not clearly established by job samples alone.

Expanded Input

The use of vocational training areas also gives the client and the evaluator the benefit of the opinion of an expert in the field. No evaluator, regardless of his training or experience, can be as fully acquainted with various occupations as those persons who work in that occupation full time. Vocational training instructors are experts in their field, and since

their primary function is to train other people, most are skilled at working with people. Their observations of a client can give the evaluator invaluable insight into an individual's capabilities in that specific occupation. This aids the client and the evaluator in reaching a decision relative to further pursuit of that area more quickly than otherwise might have been possible.

Another advantage of the tryout method in a vocational training setting is that the deaf individual is exposed to all phases of an occupation. Job samples are usually based on a relatively narrow segment of a given vocational area. Placement in an on-the-job evaluation in an employment setting usually exposes the client to only the specific duties assigned by the employer and he often does not have the opportunity to see or experience other phases of the job. By using a vocational training area for evaluation, the individual is exposed to all phases of the job. For example, a prospective mechanic trainee can see all the areas of mechanics such as general mechanics, tune-up specialist, brake and front end repair, transmission mechanic, small engine repairman, service station mechanic and related specialty areas. This enhances the client's store of vocational information and assists in making a sound vocational decision.

Client Cost-effectiveness

The tryout method is an excellent procedure for identifying problems that may not have surfaced during the prior evaluation process. Often these problems though minor in nature, can cause the individual deaf client considerable trouble in the pursuit of later vocational training. Once these problems have been identified by training tryouts, they can be relieved or worked around so that the deaf individual can benefit more fully from training and later from employment.

The greatest advantage of the tryout method is the fact that such errors are much less costly using this approach. Once placed in a vocational training area, the deaf client is not bound to remain there. It has already been stated elsewhere that deaf clients, as a group, are often deficient in the vocational information they have available to them. The client may think that he will like a particular kind of work; however, once placed in it, he may quickly realize that he has made a mistake. It is a relatively easy matter to shift the client to another area for evaluation. Even after the correct decision has been made, mistakes in training are less costly to the client, evaluator, and counselor, than the same mistakes made in on-the-job tryouts with a community employer.

Disadvantages

The principal disadvantage of using vocational training areas for evaluation is the limited availability of vocational training facilities located in

close enough proximity to make their utilization worthwhile. Training facilities are often few, distant and difficult to work with; however, it is recommended that they be utilized where available and indicated by client needs.

Another problem with this method is the time consumption. It takes much more time for tryouts in several areas than that required for an in-house evaluation employing tests and job samples. This time, however, is considered to be well spent considering the benefits a deaf person can potentially gain from the training method.

This chapter has outlined several advantages and disadvantages of the use of vocational training areas for the evaluation of deaf clients. Other evaluators in the field can, no doubt, add to the list of both advantages and disadvantages. Through the use of this method with deaf individuals, many placement mistakes can be avoided. It also appears that this approach could be useful in reducing the possible placement of a deaf person in an underemployment situation. The method has proved successful with many deaf clients and definitely deserves consideration for use whenever practical.

Chapter XI

THE JOB TRYOUT IN AN ACTUAL JOB SETTING IN THE COMMUNITY

J. Kenneth Hall

An on-the-job tryout in an actual job setting within the community is a tool that can be effectively used by the evaluation team in narrowing down job possibilities and reaching a vocational objective for the deaf or hearing-impaired client. This tool or approach is also at times referred to as on-the-job evaluation or on-the-job training. However, it should be kept in mind that all three processes actually take place while the client is in an actual work setting. In addition to assessment of client abilities, stamina, and work tolerance; the client's skill, interest, and work attitudes are being evaluated. Training takes place through the client's work involvement, observation, work experience, and supervisory instruction. Situational assessment through on-the-job tryouts should not begin until medical, psychological, social, and vocational evaluations are complete, or in the case of vocational evaluation, have been pursued as far as facilities and testing instruments permit.

Client Participation

Involvement of the deaf or hearing-impaired client is very important in this approach to vocational evaluation. The objectives of all evaluative procedures, in particular those of the job tryout, should be discussed with individual clients to ensure that they understand to the best of their abilities.

Next, the recommendations of the evaluation team, as related to employment objectives, should be fully explained to the client. The recommendations should be based on all evaluative results. These recommendations should be explained in a manner that helps the client understand they are based on the results of his or her complete medical, social, psychological, and vocational evaluation.

Client feedback regarding the results of evaluation recommendations is essential to this approach. The client should be given the opportunity to express his or her feelings regarding the recommendations. The client's feelings related to working in the recommended employment-objective field should be elicited. Exploratory counseling is recommended to further assist the client compare the evaluation team's recommendations with his or her expressed vocational interests and aspirations. Prior to the agreement of the evaluation team and the client in regard to recommendations

and the employment objective for the tryout, the client should fully understand how and why the recommendations were made.

Initial Employer Contact

Initial employer contact needs to be well planned and thought out. Several employers in similar job markets and work situations might be contacted to locate a number of alternative situations and environments for the client. Consideration needs to be given to job location, transportation assessability, number of employees, work-load, sufficient time available for job instruction and supervision by immediate supervisor, work hours, and work conditions. The employer's attitude toward a job tryout situation at his place of business is another critical, but often overlooked consideration.

When the above factors have been considered and it is determined that an appropriate job location has been secured for the client, an appointment should be made with the prospective employer. This appointment is vital for explaining the on-the-job tryout rationale as well as describing the client (discretion in confidentiality must be maintained). The initial appointment should be between an evaluation team staff member who is knowledgeable about the client and the employer, if at all possible. Many times the employer will want the immediate supervisor present in order that he or she will be aware of the tryout program and be informed about the client. The program should be explained in full to the employer and in depth. Points that need to be discussed include: what particular job is desired for the client and how this goal was obtained through a comprehensive evaluation, the desired daily work hours for the client, and the expected duration of the on-the-job tryout. The objective of the tryout needs to be fully explained so that the employer completely understands the evaluation team's objectives. This is important since it might be the intention of the team to employ the client in another job location due to the client's living in another community. If the team anticipates employment for the client with the employer providing the on-the-job tryout, this should be made clear as this could affect the length of the tryout period and/or the employer's acceptance of the program. Release agreements used by the agency and labor certificates regarding wage and hour laws and regulations required should be discussed and arranged to ensure they comply with federal, state, and local laws.

Job Analysis

The location of the job tryout site, work situation, and work environment, should be completely explored to assure that they meet the job goals established for the client by the evaluation team. A tour of the job site

should be arranged in order that the evaluation team staff member can observe the different jobs located within the site as well as observe the particular job desired for the client. All facets of the job should be observed, and, perhaps tried out in order that the staff member will be familiar with requirements and duties of the job. Employee dress and work behavior standards should be noted, as well as how much supervision and instruction is needed, and how this supervision and instruction is provided. Observation of these different job details is necessary in order that the staff member can explain ... detail the job requirements and other important necessities during the counseling session immediately prior to the on-the-job tryout.

The initial employer contact and appointment are preferably without the client present, if possible, as this contact is for planning and administrative purpose. The evaluation team's objective is to assure that this job site is suitable for the client, and that the team can prepare the client for the tryout, and prepare the client for the job situation and environment. An appointment can be set up for the employer to meet the client after the initial contact has been made. This allows the employer to meet the client and the client to meet the employer. The evaluation staff member, at the time, can give the employer more information about the client's education background, training (if any), deafness, and its etiology. Means by which the client can best communicate with supervisors and co-workers can also be discussed at this time.

Client Orientation to the Job

After meeting the employer, the client should be shown the work facility to obtain a general overview of the total business and better understand what part the job plays in the final product. Then the client can be shown the job and area of responsibility. At that time, the client might be introduced to immediate supervisors and co-workers. The client's area of responsibility can be explained by the supervisors and co-workers while the evaluation staff member interprets. This will provide the client with a detailed explanation of duties while seeing the job in progress and meeting supervisors and peer employees. This will also allow the client an opportunity to ask questions regarding procedures and operations not fully understood at the time.

After introductions to those individuals he will be working for and with, the client's feelings regarding initial contact with the employer, personnel, the job site and the job itself, can be solicited. The client should be encouraged to feel free to express his or her true opinion of the forthcoming on-the-job tryout. This period of discussion will give indications to the team if this job is compatible with the client's interests, the client's self-confidence, and work motivation. Also, this feedback by the client will give

an indication as to whether or not this tryout is compatible with the client's expectations and goals.

The evaluation team might provide a period of in-depth counseling and guidance prior to the on-the-job tryout. Specific requirements and duties of the job itself, as well as the client's responsibilities on the job need to be clarified.

Company policies and regulations should be reviewed with the client. This would cover things such as company confidentiality, channels of communication, work hours, breaks, and other information that the client should be familiar with prior to entering the on-the-job tryout.

Since the client has seen the actual job situation, comments on what he or she perceives as the proper work attire might be solicited. The evaluation team can further advise the client and take appropriate steps to help the client understand the importance of proper work attire and appearance. If the job entails hazardous areas, the client should be so advised. Particular precautions need to be taken to ensure that the client's hearing handicap will not create hazards for the client. Proper work habits (for the tryout) should be fully explained, relating client behavior, work attitude, quality and quantity of work to future employment prospects.

Evaluator Follow Along

Follow-up contact by members of the evaluation team is an important part of the on-the-job tryout. Initially, an evaluation team member might accompany the client to the job tryout and stay with the client, interpreting job instructions if needed. This will provide the client a better understanding of job requirements and duties, and facilitate questions from the client, as well as explanations and instructions from supervisors. It also affords an opportunity for supervisors and co-workers to test out various modes of communication with the client while a staff member is present to offer suggestions regarding communication techniques. The importance of gestures can be pointed out. The staff member can also answer questions by co-workers and supervisors that will surely arise about deafness and allow for suggestions and reassurance in their work involvement with the client. The evaluation staff member should continue to stay with the client to explain job requirements, duties, and/or resolve problems as they arise. However, this stay should be only in relation to the complexity of the task involved, and the staff member should not stay over a prolonged period which might contribute to client and/or co-worker dependence on his presence.

Evaluation team staff members should maintain frequent contact with the client, supervisors, and co-workers during the on-the-job tryout period. Supervisors and co-workers should be contacted regarding the client's progress, lack of progress, or problems with the task or on the job. In most

instances, misunderstandings and problems will be minor in nature. If detected and acted on, most developing problems can be resolved or circumvented quickly.

Client Feedback and Self-Evaluation

The evaluation team will need to schedule time for client feedback regarding the on-the-job tryout. The client should be given the opportunity to express feelings about the job, supervisors, co-workers, work environment and his or her progress. Positive statements by supervisors and co-workers regarding work behavior, work attitudes, initiative, and progress as well as negative remarks can be shared with the client. Reinforcement in this manner is very important and needs to be given whenever indicated. Comparison of client progress with that of present co-workers or past co-workers without a hearing problem is often productive. Frequent client feedback also allows the evaluation team to offer suggestions to the client to facilitate learning and growth. Clients can draw on the feedback experience in the future to alleviate or reduce similar problems and situations when gainfully employed.

Documentation regarding the on-the-job tryout should be recorded during the tryout. Progress, lack of progress, problems, means of communication, and, comments of supervisors and co-workers related to client progress, motivation, initiative, and chances for employment in the tryout area should be documented.

A staffing involving the evaluation team and the client's counselor, if possible, would be appropriate following completion of the on-the-job tryout. If necessary, suggestions and recommendations can be made to the counselor regarding problem areas that developed during the tryout and a prescribed plan of action indicating how the problems can be alleviated or reduced to enhance adjustment leading to gainful employment. Recommendations of the evaluation team to the counselor should be presented regarding the client's immediate placement in a job or training similar to or the same as the tryout. If indicated, the need for further training, or further services should be discussed in order that the client be fully aware of the results of the tryout. Increased self-awareness and further narrowing of vocational choice are best promoted by the process of on-going client-evaluator interaction, counseling, and guidance recommended here. The process is of particular significance in the on-the-job tryout situational assessment as the client is at, or approaching a more definitive occupational choice.

Appendices

Appendix A

SUMMARY DESCRIPTIONS OF SELECTED STANDARDIZED TESTS USED IN VOCATIONAL EVALUATION

A great number of standardized tests are routinely used in the vocational evaluation process. Assessing achievement, personality, intelligence, aptitudes, interests, and other related abilities, these standardized tests play an important role in evaluation. Although few have norms for deaf clients, many are used with this client group. Summary descriptions of selected standardized tests often used in vocational evaluation are presented here in hope of encouraging discretion and caution in their selection and use with deaf persons. Opposite each entry are references, sources, technical considerations, normative information, and discussion of the test. Where appropriate, comments related to use of the test with deaf persons are presented.

Table A.1
Selected Achievement Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Adult Basic Learning Exam	7-3	Harcourt, Brace & Jovanovich	No	Yes	Yes	x	x	Adults	Diagnostic battery which assesses basic Vocabulary; Reading; Spelling; and Arithmetic skills.
Gates MacGinitie Reading Tests	7-689	Teacher's College Columbia University	No	Yes	Yes	x	x	All Ages	Vocabulary; Speed & Accuracy; and Comprehension. Very popular as diagnostic battery for reading comprehension.
Metropolitan Achievement Test	7-14	Harcourt, Brace & Jovanovich	Yes	Yes	Yes	x	x	All Ages	Reading; Mathematics; Social Studies; and Science. Norms available for deaf students.
Peabody Individual Achievement Test	7-17	American Guidance Service	No	No	No	x		All Ages	Math; reading recognition; reading comprehension; spelling; General Information, and Total.
Stanford Achievement Test Deaf-Form	7-25	Harcourt, Brace & Jovanovich	Yes	Yes	Yes	x	x	All Ages	Reading; Spelling & Language; Arithmetic; Science; and Social Studies. Standardized and normed on deaf students.
Wide Range Achievement Test-Revised	7-36	Guidance Associates of Delaware	No	No	Yes	x		Ages 5.8-11.11 12.0+	Spelling; Arithmetic; and Reading tests. Arithmetic test can be administered to deaf clients. Spelling and reading are problematic even with skilled (in deafness) evaluator.

Table A.2
Selected Aptitude Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Bennett Mechanical Comprehension Test	7-1049	Psychological Corporation	No	Yes	Yes	x		Grades 9-12; Adults	Form AA suitable for high school males and general male adult pop. Form BB more difficult-for engineering applicants Form CC for finer discrimination at high ability levels. Form WI for females. Can demonstrate instructions.
Differential Aptitude Test	7-673	Psychological Corporation	No	Yes	No	x	x	Grades 8-12; Adults	9 scores-Verbal Reasoning, Numerical Ability Total, Abstract Reasoning, Clerical Speed & Accuracy, Mechanical Reasoning, Space Relations, Spelling, Grammar. Can demonstrate.
General Aptitude Test Battery (GATB)	7-676	U.S. Employment Service	Developing	No	Yes	x	x	Age 16+	9 scores-Intelligence, Verbal, Numerical, Spatial, Form perception, Clerical, Perception Motor Coordination, Finger Dexterity, Manual Dexterity. Can demonstrate performance subtests.
Minnesota Clerical Test	6-1040	Psychological Corporation	No	No	Yes	x			Number Comparison and Name Comparisons, Clerical Aptitude Test with emphasis on perceptual speed. Instructions simple and can be demonstrated.

Table A.2 (con't.)
Selected Aptitude Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Non Reading Aptitude Test Battery	7-679	U.S. Employment Service	No	No	No	x	x	Grades 9-12; Adults	9 scores-Intelligence, Verbal, Numerical Spatial, Form perception, Fine Dexterity, Manual Dexterity, Clerical Perception, Motor Coordination. Non Reading Version of Form B. Can demonstrate instructions.
Flanagan Aptitude Classification Tests (FACT)	7-675	Science Research Associates	No	Some		x	x	Grades 9-10; 10-12; Adults	2 Editions; 16 Test Ed.: Inspection, Coding, Memory, Precision, Assembly, Scales, Coordination, Judgement & Comprehension, Arithmetic, Patterns, Components, Tables, Mechanics, Reasoning, Ingenuity. 19 Test Ed.: Above; plus Vocabulary, Planning & Alertness. Can demonstrate.
Flanagan Industrial Test	7-977	Science Research Associates	No	No	Yes	x	x	Adult	2 Forms. Form A.: Arith, Assembly, Components Coordination Electronics, Expression, Ingenuity, Inspection, Judgement & Comprehension, Mathematics & Reasoning, Mechanics, Memory, Patterns, Planning, Precision, Scales, Tables Vocabulary. Form AA.: Assembly, Components, Electronics, Ingenuity, Inspection, Memory Scales. Can demonstrate.

Table A.3
Selected Clinical Tests For Cognitive Dysfunction and Learning
Disabilities Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Bender Gestalt Test	7-161	American Orthopsychiatric Assn., Inc.	No	No	No	x		Ages 4+	Instructions can be demonstrated. Clinical test involving perception of spatial relations. Test for brain damage. Recently quantified and standardized for assessment of psychological adjustment.
Goldman, Fristoe Woodcock Test of Auditory Discrimination	7-938	American Guidance Service	No	No	No	x		Ages 4+	Speech and sound discrimination in noisy and quiet environments. Tests for auditory dysfunctions (learning).
Graham-Kendall Memory-for-Designs Test	7-101	Psychological Tests Specialists	No	No	No	x		Ages 8.5+	Test of perceptual dysfunction. Provides objective score. Parallel to Bender. Memory of what individual perceives. Can be administered by demonstration.
Porch Index of Communicative Abilities	7-963	Consulting Psychologists Press, Inc.	No	No	No	x		Adults	Clinical test for verbal, gestural & graphic abilities in aphasic adults. 18 subtests: 4 verbal, 8 gestural, 6 graphic. Most subtests can be demonstrated.
Weigl-Goldstein-Scheerer Color-Form Sorting Test	6-101-D	Psychological Corporation	No	No	No	x		Adults	Minimum of instruction. Assesses abstract and concrete behavior. Unstructured environment provides for clinical observation and diagnosis. Instructions are readily demonstrable.

Table A.4
Selected Communication Skills Inventories Used with Deaf Persons^a

Name of Test	Category	Author(s)	Norm Population	Comments on Use
Harvard PB List	Speech	Hudgins (1949)	Deaf Children	No data on use with adults.
Picture-Identification Test	Speech	Ross (1967)	Deaf & hearing impaired children	No data on use with adults. May need modification.
Craig Lipreading Inventory	Speechreading	Craig (1964)	Deaf Children	No data on use with adults. Would need to modify to adult level.
Diagnostic Test of Speechreading	Speechreading	Myklebust & Neyhus (1971)	Deaf Children	No data on use with adults. May need modification.
Utley Test of Lipreading	Speechreading	Utley (1946)	Deaf Children	No norms on use with deaf adults. Instructions & materials would require modification for adult use.
No Name Given	Writing	Stuckless (1965)	Deaf Children 10-18 yrs.	National standardization. Language test, not just writing. May require modification.
A Cloze Procedures Test for Deaf Students	Writing	Stuckless & Enders (1972)	Deaf post-secondary students	A test of language, not just ability to write.
Manual Communication Proficiency Test	Manual Communication Skills	Craig (1969)	Deaf Postsecondary Students	No norms on deaf adults. May need modification for use with rehabilitation clients.

^aHearing tests are not included.

Table A.5
Selected Dexterity Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Crawford Small Parts Dexterity Test	5-871	Psychological Corporation	No	No	Yes	x		High School & Adults	Covers wide range of manipulative skills: use of various tools, working with small objects—pins, collars, screws. Can demonstrate instruction.
Minnesota Paper Form Board Revised	7-1056	Psychological Corporation	No	Yes		x	x	Grades 9-16 & Adults	One of most valid available instruments for measuring ability to visualize and manipulate objects in space. Shows validity in predicting achievement of dentistry and art students. Test instructions can be demonstrated.
Minnesota Rate of Manipulation	7-1046	American Guidance Services, Inc.	No	No	Yes	x		Grades 7-Adults	Gross manual dexterity test—placing, turning; displacing, one hand turning & placing, form board. Can demonstrate.
O'Connor Tweezer Dexterity	6-1079	C. H. Stoetting Co.	No	No	No	x		Ages 14+	Measures speed and fine motor dexterity—good for selecting individuals for jobs requiring manipulation of fine objects with fingers or tweezers. Can demonstrate instructions.

Table A.5 (con't.)
Selected Dexterity Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Purdue Pegboard	6-1081	Science Research Associates	No	No	Yes	x		Grades 9-16; & Adults	Uses no tools. Test provides measure of fine and gross dexterity—related to small assembly work. Simultaneous use of both hands. Instructions can be demonstrated.
Stromberg Dexterity Test	TIP-2235	Psychological Corporation	No	No	Yes	x		Trade School & Adults	Gross manual dexterity test—color pattern perception, sequencing. Can demonstrate instruction.

Table A.6
Selected Intelligence Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Chicago Nonverbal	TIP-355	Psychological Corporation	No	No	Yes	x		Ages 6+	No verbal response required. Test calls for ideational or symbolic responses. Attempts to measure conceptual abilities without use of verbal or numerical content.
Columbia Mental Maturity Scale	6-517	Harcourt, Brace & Jovanovich	No	No	No	x		Ages 3-17	Originally developed for handicapped children. No verbal response required. Good test for testing individuals with severe motor handicaps.
Hiskey Nebraska Test of Learning Aptitude	7-410	Marshall S. Hiskey 5640 Baldwin Lincoln, Nebraska	Yes	No	Some	x		Ages 3-16	Split half reliability (.95) with deaf youth. Considered more valid than WISC with deaf youth. Test uses learning ages & learning quotients. Age ceiling limits application in rehabilitation of deaf adults (e.g. 16).
Leiter International Performance Scale-Arthur Adaptation	5-407	Shoelting	Yes	No	Yes	x		Ages 2-12	Almost complete elimination of instruction. Scale designed to cover wide range of functions, similar to those found in verbal scales.
Otis Lennon Mental Ability Test	7-370	Harcourt, Brace & Jovanovich	No	Yes	Yes	x	x	Grades: Kgtn-12	Verbal test, with educational emphasis. Often used in industrial screening.

Table A.6 (con't.)
Selected Intelligence Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Peabody Picture Vocabulary Test	7-417	American Guidance Service	No	Yes	No	x		Ages 2.5-18	Vocabulary evaluation without reading on the part of test-taker. Pictorial nature helpful with deaf clients (under 18).
Revised Beta Examination	6-494	Psychological Corporation	No	No		x		Ages 16-59	Non-language test. Correlates with Otis Self-Administration. Test of Mental A Ability.
Slosson Intelligence Test	6-535	Slosson Educational Publications	No	No	No	x		Infancy thru add.	Based on Stanford Binet & Gesell Developmental scales.
Wechsler Adult Intelligence Scale	7-429	Psychological Corporation	No	Yes	Some	x		Ages 16+	Most widely used of all intelligence tests with deaf adults. Usually administer only performance scale as estimate of intelligence. Psychologists skilled with deaf persons often administer verbal scales also.
Vineland Social Maturity Scale	6-194	American Guidance Service	No	No	No	x		Infant to Adult	117 items grouped into year levels. Information obtained through interview with informant or subject. Based on what subject actually does in daily life. Assesses individuals ability for self-care.
Pintner-General Ability Tests	3-255	World Book Co.	Yes	Yes	Yes	x		Grades 4-9	Non-language designed for deaf children. Individual & group test; oral or pantomime instructions. Multiple choice items.

Table A.6 (con't.)
Selected Intelligence Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Kohs Block Design Test	TIP 6-918	Stoelting	No	No	Yes	x		Ages 5-20	Non-language performance test, reproduction of designs. Increasing difficulty. Test of concept formation, abstractions, mechanical reasoning.
Knox Cube	TIP 6-927	NA	No	No	No	x		Infant to Adult	Performance (non-language) test of immediate memory for a series of movements. Can model, pantomime, demonstrate instructions.
Raven's Progressive Matrices	—	NA	No	No	No	x		Ages 5+	Non-language performance test which assesses discrimination, analogies, permutations, patterns, other relations, simple instructions. Very high "g" loading (general intelligence.)
SRA Nonverbal	4-318	Science Research Associates	No	No	Yes	x	x	Ages 12+	Non-language performance test calling for ideational or symbolic responses. Can be self scored. Correlates highly (.57-.65) with WAIS. Has job chart. Occupations are listed with accompanying percentile ranks.

Table A.7
Selected Vocational Interest Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Geist Picture Inventory Deaf Form-Male	6-1054	Western Psychological Services	Yes	No	No	x	x	Grades 7-16 & Adults	Ten interest scores for males. Restricted range of occupations represented detracts from usefulness. Pictorial and normed on deaf group, although restricted sample.
Geist Picture Inventory Male & Female	6-1054	Western Psychological Services	No	No	No	x		Grades 8-16 & Adults	Separate editions for male & female. 11-12 interest scores. Seven (7) motivational scores. Although pictorial, samples only limited range of occupations.
Gordon Occupational Checklist	7-1019	Harcourt, Brace & Jovanovich	No	No	Yes	x		Non College High School Students	Six optional responses summarization scores. Assesses vocational interest in business, outdoors, art, technology, services. Requires 5-6th grade reading. Could individually translate for deaf client.
Kuder General Interest Survey	7-1024	Science Research Associates	No	No	No	x	x	Grades 6-12	Reading on 5-6 grade reading skills. Assesses Outdoor, Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Soc. Service, Clerical Verification. One-to-one translation to manual communication feasible.

Table A.7 (con't.)
Selected Vocational Interest Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Kuder Preference Record Vocational	6-1063	Science Research Associates	No	Yes	No	x	x	Grades 6-12 & Adults	Mechanical, Computational, Scientific, Persuasive, Artistic, Literary, Musical, Social Science, Clerical, Masculinity/femininity. Persons reading at or above 5th grade level can take written version. Otherwise, one-to-one translation to client with sufficient manual communication skills is feasible. Group-testing is possible with homogenous group. The ten (10) interest scales are of forced choice triad type, designed to assess relative interest in broad occupational fields.

Table A.8
Selected Personality Inventories Commonly Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Edwards Personal Preference Schedule	7-72	Psychological Corporation	No	No	No	x	x	College & Adults	Highly verbal test, requiring reading skills. Assesses strength of individuals' manifest need system (MURRAY); 210 forced-choice statements related to 15 needs (Achievement, Autonomy, Dominance, Aggression, etc.)
Minnesota Multiphasic Personality Inventory	7-104	Psychological Corporation	No	No	Yes	x	x	Ages 16+	Requires 6th grade reading level, extensive use of idioms creates problems for many deaf test-takers. MMPI has 14 scales (clinical) derived from responses to 550 affirmative statements. Can be administered individually with psychologist translating written material to manual communication, but still hazardous process at best.
Neuroticism Scale Questionnaire	6-148	Institute for Personality & Ability Testing	No	No	No	x		Age 16+	Inventory designed to assess degree of neurosis client manifests in various situations. Clinician may translate to manual communication (1 to 1)

Table A.8 (con't.)
Selected Personality Inventories Commonly Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Sixteen Personality Factor-Questionnaire (16PF)	7-139	Institute for Personality & Ability Testing	No	No	No	x	x	Age 16+	Designed to yield 16 scores in such traits as aloof vs. warm, emotional vs. calm, submissive vs. dominant, etc.. Ongoing research using 16PF with deaf college students (Gallaudet) is currently in progress. Indefinite results to date.
Taylor-Johnson Temperament Analysis	7-572		No	No	No	x	x	Grades 9-16 & Adults	Provides nine (9) temperament trait scores.
Thurstone Temperament	5-118	Science Research Associates	No	No		x	x	Grades 9-16 & Adults	Provides seven (7) temperament scores such as active, impulsive, stable, etc. Only items pertaining to the behavior of relatively normal persons were included.

Table A.9
Selected Projective Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
House-Tree-Person Projective Technique	6-215	Western Psychological Services	No	No	No	x		Ages 3+	Can be used to assess mental development of young children as well as screening for organic brain damage. Clinical inquiries related to drawings requires client-psychologist communication be effected.
Rorschach	7-175	Grune & Stratton Inc. 757 3rd Ave. NYC 10017	No	No	No	x		Ages 3+	Highly verbal, requires client-psychologist both have necessary communication skills. Clinicians skilled in testing deaf clients more likely to obtain valid responses. Lacking this, deaf clients often concrete and provide very few responses.
Rotter Incomplete Sentence Blank	6-239	Psychological Corporation	No	No	No	x		Grades 9-12; 13-16 Adults	40 incomplete sentence stems keyed to a seven (7) point mal-adjusted-adjusted scale. Language and deficient reading comprehension skills of many deaf client may invalidate/preclude use of this test. For many, it useful, however. Clinician can also translate (to MC)

Table A.9 (con't.)
Selected Projective Tests Used in Vocational Evaluation

Name of Test	Buro's Edition & Page No.	Publisher	Deaf Norms	Parallel Forms	Speed Test	Scoring by Hand	Scoring by Machine	Norm Population	Other Relevant Information
Thematic Apperception Test	7-181	Harvard University Press	No	No	No	x		Ages 4+	Highly verbal, requires client-psychologist communication. Can be effective for skilled clinician in assessment of deaf clients with at least basic communication skills. Responses often concrete, superficial & few in number.
Draw-A-Person	1-165	Western Psychological Services	No	No	No	x		Ages 5+	Can be used to assess mental development with young children and screening for organic brain damage. Clinical inquiries related to drawings will require effective client-psychologist communication.

Appendix B

TESTS, TECHNIQUES, AND PROCEDURES USED IN THE INITIAL ASSESSMENT PHASE OF VOCATIONAL EVALUATION WITH DEAF PERSONS

B.1

Basic Medical

In the initial assessment medical information plays a vital role in setting up a framework for investigating vocational opportunities. General medical information should encompass the past and current physical status of the client. The etiology of deafness should be stated if possible as it relates to genetic development, trauma, or disease. Physical limitations and secondary disabilities such as a precondition for disorders of lungs, diabetes, heart conditions, loss of limbs, cerebral dysfunction, cerebral palsy, visual problems, mental retardation, etc. are important to the evaluator in identifying medical problems that might interfere with vocational choices.

The physician obtaining basic medical data from the deaf client needs to be alerted to possible communication problems when probing into assumed knowledge a hearing client could readily provide or ask about in an examination. Examples of information and symptomatology that could be of medical significance but may not be volunteered by the deaf person include: the deaf client's personal and family medical history, dental problems, diabetes in the family, unusual medical symptoms such as coughing, spitting blood, passing blood in excretions, dizzy spells, double vision, pap smear, breast check, chronic headaches, etc. Use of interpreting services would be highly beneficial in the medical exam.

B.2

Otological

Otological reports give the evaluator information on causes of progressive losses, indications of prognosis for stability in hearing loss and whether or not medical treatment is indicated. Examples of otological problems that could be significant to the vocational assessment of a deaf client are:

(1) Chronic otitis media, where standard treatment for infection does not eliminate the problem and amplification would not be possible at that time for medical rather than functional reasons; also surgery might be

indicated if infection does not subside. This could cause an additional loss of hearing. Chronic otitis media may also be a result of allergic reactions to certain environmental stimulants. This may affect vocational placement possibilities.

(2) Menières Disease has characteristics (imbalance) that could make vocational placement impossible in chronic stages if the client does not respond to treatment or if the work situation involves dangerous equipment. Menières in combination with deafness is rare but the incidence is comparable to that of hearing persons and often the deaf person is not referred for medical treatment.

The evaluator should also be cautioned that corrective medical treatment does not necessarily imply restoration of hearing. Often medical treatment which eliminates the presence of pathology and treatment will also decrease hearing sensitivity in the client.

B3 *Audiological*

Audiological examinations need to be done by a qualified audiologist skillful in interpreting test results in relation to the deaf person's vocational potential. The report should be current. The evaluator needs to understand the information presented in the audiogram. In general, *audiometric information* includes the type and extent of loss, a speech reception threshold (SRT) which will tell when and if speech can be understood, a speech discrimination score that gives percentage(s) of speech a client can understand in an ideal testing situation and predicts potential for increasing discrimination skills, and probable benefits from amplification.

Besides standard pure tone testing, most speech and hearing clinics have other specialized tests that are useful in testing clients unable to respond to standard pure tone procedures, clients suspected of pathology, malingerers, etc. For example, most audiologists now routinely perform *impedance testing*. Other audiologists are using this additional test on request or recommendation of an otologist or evaluator. The tympanogram offers information about the middle ears' integrity and functioning. This test indicates possible disease, perforation of the eardrum, and malfunctioning of the eustachian tube. A prediction of hearing loss can be made with the acoustic reflex portion of this assessment. The acoustic reflex decay test can predict VIIIth Cranial Nerve involvement. Ipsilateral testing predicts possible tumors and the presence or progression of Bells palsy. This particular test is extremely valuable to use with the deaf-blind, or deaf client who has little or no communication skills, since the test does not require a standard response on the part of the client.

A *hearing aid evaluation* done by a qualified audiologist gives compara-

tive measures for selecting the best possible aid for each individual clients' amplification needs. Hearing aid evaluation test results should specify reasons for the selection of a particular aid. Evaluation should include the dynamic range of the aid recommended, and the particular needs of the client in relation to the aid (such as a glasses aid, unilateral aid, cross aids, two hearing aids, etc.). Many clients would benefit from selective-use aids, also. For example, some aids might not be vocationally recommended, but are suggested for social reasons such as in a church situation or for watching television. Again, the evaluator needs to be cautioned about amplification. Hearing aids provide only amplification, not "normal" hearing.

Additional diagnostic procedures that are relatively independent of the patient's voluntary responses can also be performed. *Electridermal or Psycho-galvanic Skin Response Audiometry* are employed in cases of suspected functional or non-organic hearing problems with very young children or clients incapable of being successfully tested with standard procedures. Electroencephalographic Audiometry is used primarily with children who present special problems in testing.

At times it is desirable to obtain more information about the persons auditory behavior to specify site of the hearing problem. *Recruitment tests* often measure presence or absence of cochlear pathology. The ABLB (Alternate Loudness Balance Test) measures problems with unilateral impairments such as VIIIth Cranial nerve involvement and the Menières syndrome. A recruitment test measuring bilateral impairment is the Monaural Loudness Balance test. The SISI (Short-increment sensitivity index) is most meaningful in terms of differentiating cochlear from VIIIth Cranial nerve impairment. Tone decay testing is used in detecting the Menières syndrome and other undefined hearing problems. The Bekesy test requires a special audiometer and yields special information to determine cochlear or VIIIth Cranial nerve lesions.

Prosthetic Appliances. The hearing aid can be an asset to the deaf client where amplification is indicated. Here again, the audiologist or hearing and speech therapist can play an important role in helping the evaluator determine if a client can increase his vocational potential by learning to make maximum use of residual hearing. The fitting of the hearing aid is only the first step in developing increased auditory skills. Many clients can benefit from an orientation program to help them understand the care and maintenance of their aid and how to use it in different situations. This orientation and training is comparable to the training of an amputee in learning to use an artificial limb, bifocal fitting for the first time, and an individual getting used to wearing contact lenses, etc. Prosthetic appliances are seldom of immediate maximum benefit. However, if the potential is there, the client should be provided training in the use of the hearing aid.

A hearing aid is not provided just to increase understanding of speech. Many severely deaf clients use amplification to detect presence of speech, discriminate male and female voices, attend to a source of sound, discriminate machinery sounds on the job, etc. Other clients with more residual hearing in contrast, may be poor hearing aid candidates because of recruitment (excessive reaction to small increments of noise) problems which require amplification to be set at too low a volume for benefit. Again, the successful hearing aid user is more likely to be found among those people who have received training in proper utilization of amplification.

B.4

Visual

The visual examination is just as important to the deaf client as the auditory assessment is to the blind client. Visual cues are the dominant method of acquiring language experiences and achieving interpersonal communication for the deaf client.

Complete ophthalmological reports need to be current, to ascertain any diseases of the eyes that could further restrict the deaf client. Cataracts, glaucoma, myopia, astigmatism, poor muscle control, are but a few of the more common problems. Special emphasis should be made to obtaining a field-test to determine whether there are any restrictions on the peripheral vision of the deaf client. A simple check-list of symptoms indicating visual problems, made by the evaluator, could include symptoms such as:

1. discharges from the eye
2. squinting
3. lack of coordination in directing vision of both eyes
4. frequent rubbing of eyes
5. faltering or stumbling
6. sensitivity to normal light levels
7. difficulty in estimating distances
8. inattention where sustained visual activity is required.

Corrected vision, stability of visual loss and prognosis for improvement or degeneration could greatly affect vocational choices open to the hearing impaired person.

B.5

Communication

A communication skill assessment should be obtained in the very beginning of the rehabilitation plan involving a deaf person. A functional assessment in both formal and informal situations should be performed.

The communications evaluation should determine the clients' primary means of communication whether it be oral, pantomime, manual communication, or a combination of those. This should include assessment of the client's functional language level. Prognosis for improvement in communication can assist the evaluator in planning the client's program. There should be information in this phase of the assessment on the client's ability and method of relating to hearing people. This information would be valuable in ascertaining job potential. (See discussion in Chapter VI).

Language. The language element in communication assessment must be given priority over any other area in a training program for deaf clients. Methods and criteria for assessment can be divided into vocabulary tests, comprehension and expression tests, language usage tests, and informal measures of language acquired through observation of a client in his normal environment.

The following tests are applicable for language assessment of a deaf population. The tests are routinely administered by speech and hearing therapists but can be given by other persons skilled in test administration (such as a teacher or evaluator). A language test should measure the present functioning level of the person in relation to an expected language level for the "normal" person of comparable age and sex. These tests measure a client's vocabulary, syntactical and grammatical skills, and comprehension and expression skills.

Any one of these tests would provide measures of functional skills and prognosis for improvement. However, the examiner should have available a number of these tests if possible since they are relatively inexpensive and each adds information for possible training (see also Appendix A-4, p. 164).

1. Riverside Language Development Program

This program (has built in evaluation and) is designed to develop language skills through programmed materials from a readiness level through approximately 6th grade language functioning. The format includes a four-part program in readiness skills, math, reading, and language. It was originally developed for a multiply handicapped population of deaf children, but is easily adaptable to deaf adults.

2. The Porch Tests, PICA and PICAC

These are designed to measure separate components of language such as matching, sequencing, identification, usage, etc. The PICA (Porch Index of Communicative Abilities) was standardized on aphasic adults but, like many tests for aphasia, has applications for testing any language impaired individual. This test is lengthy and requires a great deal of preparation on the part of the evaluator. Training in administering this test would be

extremely helpful and PICA workshops are available throughout the year in many university Speech and Hearing Centers. The PICAC (Porch Index of Communicative Abilities for Children) was standardized on a number of language impaired children including deaf children. This test can also be used with deaf adults. The main advantage of the 2 Porch tests is their prognostic information. The test results give a baseline as well as indicators of possible improvement, including areas of weakness and areas where the client shows greatest potential for training. These tests can and should be given on a regular basis and can give clues to possible pathology when test results begin to deviate.

3. Orientation to American English

This can be administered by any teacher or evaluator. This is a new program designed as a tool for learning english as a second language. The range of the test is from minimum reading skills to college level language. Some reading is required. This program was designed to be used with a deaf population.

Other tests often used by language therapists evaluating language impaired individuals (including deaf clients) are:

Full Range Vocabulary Tests by Amons and Amons

The communication portion of the Vineland Social Maturity Scale

The Utah Test of Language Development

The Goal Program of Language Development

The Monterey Program of Language Development (need special training to administer).

Manual Communication. The manual communication assessment should range from gesture and performance through demonstration to communicating structurally and grammatically correct signed English. If the client lacks manual communication skills the assessment should include his ability to attend, imitate oral and manual movements, and, if possible, the ability to recognize signing as a means of communication. For example, if the client is taught some basic signs and can show by performance or matching sign to picture or object that he retains and comprehends the gesture and meaning, prognosis for learning manual communication is stronger than for a client who shows echolalic responses.

Speech. The most conspicuous effect of deafness, the one that makes communication with deaf persons difficult for the hearing friend, teacher, or employer, is its effect on speech. In many instances, the voice quality of the deaf individual is too loud and harsh, or, conversely, too soft and inaudible. Speech and speechreading tests are listed in Appendix A-4 (p. 120).

Appendix C

GUIDE TO DISTRIBUTORS AND APPROXIMATE COST OF MAJOR WORK EVALUATION SYSTEMS

I. *Hester Evaluation System (H.E.S.)*

Distributor: Goodwill Rehabilitation Center
120 South Ashland Boulevard
Chicago, Illinois 60607

Approximate Cost:

H.E.S. Package	\$2,435.00	includes shipping
Foot Powered Stapler	180.00	plus shipping
Folding Machine	545.00	plus shipping
Cassette Player	25.00	
Tests for 100 persons	160.00	plus shipping
Forms for 100 persons	40.00	plus shipping
Print-outs (per client cost)		
Processing (mail & cyber net)	10.00	
Processing (telephone)	10.00	
Evaluator Training (each)	200.00	

II. *JEVS Work Sample Program (JEVS)*

Distributor: Jewish Employment Vocational Service
1913 Walnut Street
Philadelphia, Pennsylvania 19103

Approximate Cost:

JEVS Package	\$5,000.00
Evaluator Training and Consultation	Additional

III. *McDonald Vocational Capacity Scale (McDonald)*

Distributor: McDonald Training Center
4304 Boy Scout Blvd.
Tampa, Florida 33614

Approximate Cost:

McDonald Package	\$ 10.00
No Evaluator Training Needed	

IV. *Systematic Approach To Vocational Evaluation (SAVE)*

Distributor: M. S. McDonald
Evaluation and Training Center
606 Graham St.
Rome, Georgia 30161

Approximate Cost:

SAVE Package	\$1,000.00
Evaluator Training	Additional

V. *Singer Vocational Evaluation System (SINGER)*

Distributor: Singer, Inc.
Education and Training Division
3750 Monroe Avenue
Rochester, N.Y. 14603

Approximate Cost:

Singer Package	\$17,000.00
Evaluator Training	Additional

VI. *Talent Assessment Profile (T.A.P.)*

Distributor: Talent Assessment Programs
7015 Colby Avenue
Des Moines, Iowa 50311

Approximate Cost:

T.A.P. Package	
1 to 5 clients at time	\$1,500.00
6 to 10 clients at time	1,850.00
11 to 15 clients at time	1,950.00
16 to 20 clients at time	2,100.00
Evaluator Training (at Des Moines)	Included

VII. *Testing, Orientation, and Work Evaluation in Rehabilitation (TOWER)*

Distributor: ICD Research & Rehabilitation Center
340 East 24th Street
New York, N.Y. 10010

Approximate Cost:

TOWER Package	\$ 400.00
Equipment & Materials	4,500.00
Evaluator Training (required)	Included

VIII. VALPAR

Distributor: Valpar Corporation
Tucson, Arizona

Approximate Cost:

VALPAR Package	\$4,000.00
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Evaluator Training (available)	Additional
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IX. *Wide Range Employment Sample Test (WREST)*

Distributor: Guidance Associates of Delaware
1526 Gilping Avenue
Wilmington, Delaware 19806

Approximate Cost:

WREST Package	\$ 395.00
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Optional Cabinet	250.00
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WREST Manual	8.00
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Record Forms (50)	4.50
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No evaluator Training Necessary

Appendix D
SAMPLE DATA FORMS USED
IN JOB ANALYSIS

- D.1 Job Analysis Schedule
- D.2 Employer Survey Form
- D.3 Evaluator Job Survey Form

D.1

Job Analysis Schedule^a

1. Estab. Job Title _____
2. Ind. Assign. _____
3. S.I.C. Code(s) and Title(s) _____

Code	DOT Title	Ind. Design.	WTA Group	4. JOB SUMMARY:																																																																																																																																			
				5. WORK PERFORMED RATINGS:																																																																																																																																			
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7. General Education

- a. Elementary _____ High School _____ Courses _____
- b. College _____ Courses _____

^aAdapted from the *Estab. & Sched. No OMD 44-R0722*. U.S. Department of Labor Manpower Administration.

8. Vocational Preparation
- a. College _____ Courses _____
- b. Vocational Education _____ Courses _____
- c. Apprenticeship _____
- d. In-Plant Training _____
- e. On-the-Job Training _____
- f. Performance on Other Jobs _____
9. Experience _____
10. Orientation _____
11. Licenses, etc. _____
12. Relation to Other Jobs and Workers
- Promotion: From _____ to _____
- Transfers: From _____ to _____
- Supervision Received: _____
- Supervision Given: _____
-
-
13. Machines, Tools, Equipment, and Work Aids
14. Materials and Products
15. Description of Tasks:

16. Definition of Terms

17. General Comments

18. Analyst _____ Date _____ Editor _____ Date _____
Reviewed by _____ Title, Org. _____
National Office Reviewer _____

D. 2

Employer Survey Form

Name of Company: _____

Department or Occupation: _____

1. Do you have any DEAF or HARD of HEARING employees? Yes _____ No _____

Q. Any special consideration or problems with these employees?

2. If a DEAF or HARD of HEARING person otherwise meets all qualifications of the job involved, would you hire him/her? Yes _____ No _____

If No, please comment: _____

3. Do you have a job that you feel a DEAF person could perform better than a HEARING person? Yes _____ No _____

Comment: _____

4. If a DEAF person had communication skills such as, lip reading, sign language, reading & writing, could he/she perform on the job that normally requires verbal communication? Yes _____ No _____

Comment: _____

D. 3

Evaluator Job Survey Form

Name: _____ Title: _____

1. What services within your area of responsibility could you provide the Deaf or Hard of Hearing Client? (Work Adjustment, Training, Job Placement, etc.)

2. Would any special consideration, problems, or safety factors be anticipated different than for hearing persons? If Yes please explain.

3. What Modifications would be necessary to provide the services in #1 above to the Deaf? (Interpreters, Warning Signs, Visual Formats, etc.)

4. List ideas and recommendations relating to methods of Evaluation, Work Adjustment, Training, and Job Placement of the Deaf.

Appendix E

GUIDELINES FOR A MODEL WORKSHOP FOR VOCATIONAL EVALUATION OF DEAF CLIENTS

A MODEL WORKSHOP FOR VOCATIONAL EVALUATION OF DEAF CLIENTS

Purposes and Goals

The model workshop proposed by the Task Force is based on the premise that an ongoing, realistic structured work environment is an effective rehabilitation tool. Operated through the use of industrial contracts, this live manufacturing or production setting is coupled with the idea that immediate positive reinforcement for appropriate work behavior will, in all likelihood, increase the occurrences of such behavior. The workshop should be designed to serve a population of multiply handicapped deaf people who have little or no work experience. Clients served will generally be referred due to social inadequacy or problem behaviors. They may not be ready to take advantage of a structured vocational training class or they may simply need a realistic work experience before going into an on-the-job training situation. In other words, the modal deaf client who might most benefit from a workshop has not previously been exposed to the process of learning appropriate work behavior that takes place over an extended period of time.

The model workshop described here is structured to meet the needs of deaf individuals mainly by concrete visual presentations. Orientation pamphlets written in simple language are provided. Role-playing and peer modeling are used to assist the client make a positive initial adjustment. Client schedules, time card rack, work task assignments, production records, pay schedules, behavior charts, and client status level all should be posted in printed form with color coding and graphing to keep all information as non-verbal and concrete as possible. Each work station may be numbered and this information printed on the time card itself; thereby allowing the client greater opportunity for self direction without lengthy discussions or directions. Generally, visual elements such as those described here are readily evident to the client. The structured environment also allows for adequate measurement of behaviors without leaving the client with a feeling of being manipulated or regimented.

Subcontracting and Manufacturing

The Workshop may be financially self supporting. Therefore, the industrial contracts must be handled in a (business-like) manner conducive to

economic feasibility and production rates. Contract procurement must be handled in such a way as to insure:

- (1) economic feasibility,
- (2) competitiveness with local industry,
- (3) size, weight, etc. to suit workshop facilities,
- (4) therapeutic value of work task,
- (5) ability to meet production needs, and
- (6) appropriateness to facility goals.

Production schedules must also be coordinated to insure timely delivery of work material, but with major emphasis placed on the daily needs of client work assignments.

The size and emphasis of the workshop in a particular situation defines its program elements. However, to supplement contract work, work sample techniques may also be incorporated with approximate certification from the U.S. Labor Department. Of considerable importance here is that the evaluator takes great care not to "lock in" the deaf individual to any small group of jobs. In fact, (earlier in these guidelines) it is suggested that the workshop serving deaf individuals most often will need to serve as a vocational exploration area. This will be extremely difficult if the workshop relies exclusively upon subcontracting or prime manufacturing for all client work opportunities. Work sample techniques may well need to be incorporated.

Wage Rates

The Workshop should operate for maximum benefit to the clients involved (and in compliance with Labor Department requirements) by paying piece rate wages. Each manufactured or sub-contracted item in the Workshop is assigned a piece rate wage pay scale that is, at the minimum, commensurate with local industry (\$2.20 hr.). The amount of piece rate pay will have to be established by time studies or statements from similar local competitive industry. This monetary system can then be used with each client to reward behaviors that are compatible with appropriate productivity.

The unique advantage of the piece rate pay schedule lies in the opportunity for the low functioning "non-verbal" client to experience the relationship of production and pay as soon as possible. Also, this allows each client, regardless of level of functioning, to participate in self-charting which assists in measuring several different skill abilities.

Quality Control

Continuous workshop operation requires that a system of quality control be incorporated. In the majority of workshops, this is the major

responsibility of the floor supervisor. It is his responsibility to insure that all work be performed in a quality manner and that procedures are related to industrial standards. Advanced clients may also be assigned responsibility for maintaining quality control measures. Particularly when some contract work must be subjected to special quality control checks on an item-by-item or intermittent check basis.

This system permits clients the opportunity for advanced job assignments and leadership responsibilities. Again, this promotes the feasibility of obtaining recorded measurements on client performance that may otherwise be difficult to ascertain.

Safety

A workshop program must maintain an on-going safety program. Fire drills, teaching escape routes, emergency situation evacuation plans, and an accident monitoring and reporting system are desired and necessary. The workshop program should also include instruction and practice in safe operation of all different types of equipment. These pieces of equipment should each have proper operating procedures posted. Other provisions such as traffic routing, should also be part of the overall safety awareness in the Workshop. The safety program in general should stress concrete instructions for low functioning deaf persons.

Several elements in this safety program can be used very effectively in the evaluation of a deaf client. Some examples would include: knowledge of survival words, ability to respond to an alarm, ability to follow an escape route poster, and awareness of emergency situations and plans.

Intake and Planning

Referrals to a workshop for vocational evaluation should be accompanied by certain referral information including: (1) reason for referral (2) work history (3) basic data (age, address, etc.), and (4) specific evaluation services requested. Upon referral to the workshop, the workshop staff's first objective is to design a plan within the unit. Following review of client referral information and conjoint staffings with other units, the workshop staff can plan initial work task assignments, and begin recording behavior observations. This initial adjustment plan includes the following information: (1) statement of problem, (2) description of behavior, (3) specific objective, (4) method to achieve objective (goal of evaluation), (5) responsible party for plan implementation, and (6) time reference.

This procedure can also be used to conduct the initial assessment phase within the workshop, if it is used as the major evaluation component (instead of a support vehicle). Programming would depend upon the size and goals of the workshop itself, and the relation of the adjustment-evaluation program to overall facility objective.

Workshop Program

Upon completion of these initial steps in the evaluation plan, the individual client's workshop program goals should be clearly stated. The overall objective is to provide each client an opportunity to understand and reach his maximum employment potential through simulated actual work experiences. This can best be done in a workshop through the use of a four phase program: The first phase is designed to (allow the client to) associate appropriate work with appropriate pay as soon as possible. Under Phase I the client is paid in cash on a daily basis, or possibly even paid following a few minutes work in which he earns a nickel or dime. After clients have participated in the Workshop for a length of time (approximately six weeks), most will be ready to enter what is known as Phase II of the pay scale. In Phase II the client is paid by check at the end of the week for the work performed that week. The client is reinforced daily by a tally sheet that is posted on a rack in the work area. This rack, with work task and production rates posted on it, also helps create and maintain a more competitive atmosphere. There can be two additional phases to this workshop process. Phase III entails more advanced, or complex work tasks. This step of the program also might involve more independence on part of the client in self maintenance as related to arrival time, work task assignments, awareness of production needs and labor control. Phase IV allows the client to be a working coordinator. This would not be an expected goal for all clients served by the Workshop. However, the client that is productive and capable could well be utilized to fill out time cards, production records, and to assume some responsibility for work task assignments, production schedules, and daily production needs such as counting and packaging. This could also be utilized as a work station for more advanced clients that are otherwise not associated with the Workshop. These four program phases assist in establishing terminal achievement goals for each client after a short, but reasonable time in the program.

Upon completion of the initial plan and establishment of the individual client's pay rate, the workshop generally might use several approaches to teaching appropriate work behaviors. A time card and clock can be used both for compliance with labor regulations and, as a training aid to clientele. Behavior observations are recorded and performance baselines are established. Whenever possible (in light of client communication skills), primary and secondary program goals are discussed with the client. Goals and methods of goal achievement are agreed upon. Production rates become a progress chart for both, the client and evaluator. The client is kept keenly aware of his production level because monetary rewards are tied to piece rate schedules. Conspicuously placed charts (self-charted) further strengthen continuous client awareness of work performance.

This narrative does not attempt to cover every specific method used on a daily basis to observe and record production or improved behavior. How-

ever, some important areas that have not been previously discussed would surely include the following list.

1. Punctuality and tardiness can be monitored by the use of a time clock. These behaviors can be reinforced or extinguished by the use of social reinforcers or points used for purchases in the Workshop store.
2. Proper dress, as related to routine or special work tasks, is handled by individual instruction. An example of this would be to send a client home to change if he is dressed improperly for a work task that he was advised to prepare for.
3. Cooperation with supervisors and acceptance of work task assignments merit ongoing attention. A client that is experiencing a problem in either of these areas may be offered the opportunity to choose a desired task from the variety of jobs then being performed in the workshop. Or, on the other hand, a client may be given the option to accept the task assigned, or to remain out of the production area for the remainder of a particular work day.
4. Peer relations in the work situation have many ramifications.
5. Individual preferences for a more, or less desirable work task, need to be dealt with as appropriate.
6. The very broad general area of quality and quantity of work is a constant pressure point for all clients involved in workshop programs.
7. The most important point is that all instructions and charting should be as concrete and visible as possible.

Appendix F

SELECTED SOURCES OF ADDITIONAL INFORMATION AND ASSISTANCE

Selected sources of additional information and assistance related to deafness and to vocational evaluation are listed here. The resources in deafness are programs which can provide: manual communication training; interpreter training; interpreter referral; undergraduate, graduate, or in-service training in deafness; technical assistance; professional or consumer information and publications; and other related support services. The vocational evaluation resources listed here can provide comparable assistance related to general practices in vocational evaluation and work adjustment.

A. *Programs in Deafness*

1. Center on Deafness
California State University at Northridge
Northridge, California 91324
(215) 885-2611
2. Deafness Research & Training Center
New York University
80 Washington Square East
New York, N.Y. 10003
(212) 598-2305 TTY: (212) 477-1222
3. Department of Special Education & Rehabilitation
College of Education
University of Tennessee
Knoxville, Tennessee 37916
(615) 974-2321
4. Gallaudet College
7th & Florida Ave., N.E.
Washington, D.C.
(202) 447-0837
5. National Association of the Deaf
814 Thayer Avenue
Silver Spring, Maryland 20910
(301) 587-1788
6. Office of Deafness & Communicative Disorders
Rehabilitation Services Administration
DHEW - South Building Rm 3416
Washington, D.C. 20201
(202) 245-0591

7. Professional Rehabilitation Workers with the Adult Deaf
814 Thayer Avenue
Silver Spring, Maryland 20910
(301) 589-0880
8. Program for Deaf Students
St. Paul Technical-Vocational Institute
235 Marshall Avenue
St. Paul, Minnesota 55102
(612) 227-9121
9. Registry of Interpreters for the Deaf
P.O. Box 1339
Washington, D.C. 20013
(202) 447-0511
10. The Rehabilitation Center
College of Education
University of Arizona
Tucson, Arizona 85721
(602) 884-3601

B. Programs in Vocational Evaluation

1. Auburn University
Rehabilitation Service Education
1119 Haley Center
Auburn, Alabama 36830
(205) 826-5943
2. University of Arizona
Program in Vocational Evaluation & Work Adjustment
The Rehabilitation Center
Tucson, Arizona 85721
(602) 884-3601
3. University of Wisconsin - Stout
Department of Rehabilitation & Manpower Services
Menomonie, Wisconsin 54751
4. Vocational Evaluation and Work Adjustment Association
1522 K Street, N.W., Suite 400
Washington, D.C. 20005
(202) 223-0642

GLOSSARY OF TERMS USED IN VOCATIONAL EVALUATION OF DEAF PERSONS^a

Adjustment Services: Those services which facilitate individual, personal, social, and vocational acculturation, adaptation, and acclimation to bring the individual into conformance within acceptable tolerances of socially permissible behavior.

Aphasia: An inability, total or partial, to understand or to use language in any one or all of its forms, such inability being independent of any other mental capacity.

Aptitudes (Aptitude): The probable level of future functional outcome that could be reached following further maturation and/or training.

Audio-Visual Materials: Written, printed, visual, or auditory media such as videotapes, films, slides, photographs, transparencies, diagrams, charts, posters, etc. In the evaluation setting audio-visual materials can be used to enhance client self-evaluation and encourage vocational exploration.

Audiogram: Standard form on which successively higher pure tone audiometric measures are plotted to present a graphic profile of an individual's hearing.

Audiologist: A specialist in the nonmedical evaluation, habilitation, and rehabilitation of those individuals whose language and speech disorders (communicative disorders) center in whole or in part in the hearing function.

Audiology: The science of hearing. The term is designed to coordinate the separate professional skills which contribute to the study, treatment, and rehabilitation of persons with impaired hearing.

Audiometer: A precision instrument for measuring hearing acuity.

Audiometrist: A person trained in the use of the audiometer.

Better Ear Average (BEA): Audiometric measure which describes the individual's average hearing threshold level for the speech range (500, 1,000, and 2,000 Hz) in the better ear.

Client Information (Referral Data): Data about the client obtained from other specialists, persons, and agencies that is obtained verbally or through such documents as psychometrics, terminal reports, medical reports, intake reports, and social service reports.

Clinical Assessment Services: An assessment which identifies the needs of atypical and dysfunctioning people for whom the conventional approaches are not effective.

^aTerms specific to vocational evaluation were adapted, in part, from the "Vocational evaluation project final report." *Vocational Evaluation and Work Adjustment Bulletin*, Vol. 8, August, 1975, pp. 85-93. Copyright 1975 by VEWA. Reproduced by permission of VEWA.

Conductive Hearing Loss: A hearing impairment due to interference with the acoustic transmission of sound to the sense organ, usually in the outer or middle ear. In pure middle-ear conductive hearing loss the hearing-threshold levels measured by bone conduction are usually near normal, and air-bone gaps are large, up to 75 db.

Counseling: A helping relationship where, an individual who feels the need of psychological help, establishes a voluntary relationship with a person (counselor) trained to provide that assistance.

Counselor: A professional person trained to provide assistance, in a helping relationship, to individuals who voluntarily request psychological help.

Deaf: The inability to hear and understand normal conversational speech through the unaided ear alone (usually BEA loss of 80 db or greater). Various classifications are used to designate the age at onset of deafness, these are:

1. *Congenital:* Deaf at birth.
2. *Adventitious:* Normal hearing at birth, but becomes deaf through later illnesses, accidents, or other related causes.
 - a. *Prelingual*—Prior to development of speech and language (usually prior to 3 yrs. age).
 - b. *Postlingual*—After development of speech and language (usually after 3 yrs. age).
3. *Prevocational:* Prior to the age of 19.

Decibel: A unit for measuring the intensity of sound. It is abbreviated as dB.

Disability: A condition of impairment, physical or mental, which materially limits, contributes to limiting or, if not corrected, will probably result in limiting an individual's activities or functioning.

Eligibility: When used in relation to an individual's qualification for vocational rehabilitation services, refers to a certification that (1) a physical or mental disability is present; (2) a substantial handicap to employment exists; and (3) vocational rehabilitation services may reasonably be expected to improve the individual's functional independence.

Etiology: The cause or origin of a disease.

Evaluation: Process of assessment against some criteria.

Evaluation in a Vocational Training Setting: An evaluation setting which has the following characteristics: (1) the client is not paid, (2) the existence of an established vocational training program, (3) it is primarily for the benefit of the client, (4) the client's performance is supervised and evaluated by the instructional staff in coordination with evaluation staff, (5) it does not necessarily result in entry by the client into that training program.

Face Validity: Concerns the extent to which the test item(s) appears to "look like" what it is intended to measure. In vocational evaluation, a test with face validity will probably enhance the extent to which test takers will see the relationship between a test task and an actual job task.

Feedback: The return to the input of a part of the information output of a machine, system, or process. In evaluation this information is utilized to assist clients or other interested parties to modify future performance.

Fingerspelling: Communication system used by deaf persons in which words and sentences are spelled out by forming letters of the alphabet in standard positions by the fingers of the hand.

Gainful Occupation: Includes employment in the competitive labor market; practice of a profession; farm or family work (including work for which payment is in kind rather than in cash); sheltered employment; and home industries or other homebound work.

Handicap: The cumulative result of the obstacles which a disability interposes between an individual and his or her maximum functional level.

Handicapped Individual: A disadvantaged or disabled person whose condition imposes a limit upon his employment potential.

Hard of Hearing: Those individuals for whom the sense of hearing for speech, although defective, is functional with or without a hearing aid. Audiometric loss usually measured between 25-55 dB.

Hearing Aid: An amplification device (system) designed to make sounds louder.

Hearing Impaired: Refers to all deviations from normal hearing including deafness.

Hearing Threshold: Audiometrically, the individual's hearing threshold is defined as the lowest hearing level at which he responds correctly to the presence of amplified tones at least 50 percent of the time.

Individual Case Record: Includes all information obtained about the client prior to, during, and in followup of the evaluation case. Includes referral information such as social and work history, medical information, referral questions, program plans and goals, services to be provided, signed reports and notations relating to performance and progress during the evaluation, notes from case conferences, the termination decision, and final report of findings and recommendations.

Industrial Standards: Actual worker requirements from industry based on the expectations of the employer.

Initial Screening: The process of reviewing all available pertinent data on referrals to determine the need for vocational evaluation and to establish a program plan.

Interpreter: A person who translates the spoken word to manual communication and/or manual communication to the spoken word (reverse) in communication between (a) deaf and hearing person(s).

Interview: Communication between two or more persons used for such purposes as diagnosis, education, therapy, or just to gain information. Though some interviews are primarily to obtain information and some primarily to give help, most involve a combination of the two.

Job Analysis: Involves the systematic study of an occupation in terms of: what the worker does in relation to data, people, and things; the methodology and techniques employed; the machines, tools, equipment, and work aids used; the materials, products, subject matter, or services which result; and the traits required of the worker.

Job Bank: A computerized system, developed by the Department of Labor, which maintains an up to date listing of job vacancies available to the State Employment Service.

Job Clusters (Work Families, Job Families): Related occupation grouped on the basis of similar job requirements, such as, specific duties of the job, materials and equipment used, and skill, knowledge, and worker characteristics required.

Job Exploration: A process whereby an individual is exposed to work experience and occupational information which provides feedback to the individual in order to increase his knowledge of the world of work, and feedback to the evaluation team on which to make judgements.

Job Families: see Job Clusters.

Job Samples: see Work Samples.

Job Seeking Skills: Those skills that enable a person to seek out job vacancies and apply for them. Includes knowledge of where to find information about job openings, how to fill out an application, how to take employment tests, how to handle a job interview, etc.

Job Task: An actual single work activity that is taken in its entirety without any changes directly from a specific job.

Job Tryout: Contains at least the following characteristics: (1) wages are paid to the client, (2) it is primarily for the employer's benefit, (3) the client is an employee, and (4) the setting is controlled by the employer. It is in actuality a placement used as an evaluation tool with the understanding that the client may not succeed, and will be helped further if he does not. The success or failure provides the evaluator and client with additional information to make specific employment decisions.

Low-Achieving Deaf Clients: Generally refers to those deaf individuals who are achieving below potential. Formal academic achievement generally ranges from kindergarten through the fourth grade (K-4) for individuals included in this classification.

Low-Verbal Deaf Clients: Generally are those deaf individuals who, in addition to possible low academic achievement, also have limited, marginal, or non-existent communication skills regardless of modality (e.g., speech, manual communication).

Manual Communication: Communication system commonly used by deaf persons in which words and sentences are formed by standard movement and positioning of the hands and fingers. The term covers all kinds of manual languages, including American Indian sign language.

Menière's Disease: A fluctuation of symptoms, with sudden attacks of vertigo, deafness and tinnitus (head noises) usually due to a disturbance in the labyrinth (inner ear).

Mixed Hearing Loss: Generally designates a combined conductive and sensory neural hearing impairment.

NAD: National Association of the Deaf is the major consumer organization of deaf persons in the United States. Affiliate Chapters are located in almost every state.

NITC: National Interpreter Training Consortium is a consortium of six (6) major training programs in deafness which have combined their collective resources to train interpreters in the 50 states.

Norms: A single value or range of values constituting the usual performance of a reference group including the median or average.

Observational Procedure: An organized method of recording what a client does, for the purpose of documenting behavior; the emphasis is usually upon productivity, behavior patterns, expressed interests, and worker interaction. Used to gain information concerning a client's overall level of functioning.

Occupational Information: Any information relevant to paid employment such as definitions, conditions of employment, and requirements, e.g., Department of Labor publications, job banks, commercial media, job exploration systems, publications of occupational, professional, and interest groups, tours of job sites, local labor market surveys, etc.

On-the-Job Evaluation: Contains at least these characteristics: (1) the client is not necessarily paid, (2) it is primarily for the client's benefit, (3) it will not necessarily result in employment, (4) the employer does not experience any immediate gain, (5) the client does not displace or fill vacant worker slots, and (6) the client's performance is supervised and evaluated by the employer and/or the evaluation staff. The client is given the opportunity to experience, in various degrees of participation, the specific requirements necessary to do the specific job.

Ophthalmology: The branch of medical science dealing with the anatomy, functions, and disorders of the eye.

Otologist: A medical specialist in the anatomy and functions of the ear, and in the diagnosis and treatment of diseases of the ear.

Otosclerosis: A hereditary bone disease which affects the middle ear and causes fixation of the stapes, preventing free movement and the flow of sound vibrations to the inner ear. A conductive type of hearing impairment, often amenable to surgical correction.

Oral Communication: Method of communication which stresses use of residual hearing, speech, and speechreading.

PRWAD: Professional Rehabilitation Workers with the Adult Deaf is a professional organization whose members are either engaged in, or have an interest in rehabilitation services for deaf adults.

Production Work Evaluation: This evaluation approach is a method of evaluating clients through the use of actual industrial work brought into the evaluation facility. It is possible for the evaluation staff to vary all the customary conditions of the real job in an effort to discover difficulties that prevent the client from working effectively.

Profound Hearing Loss: Usually associated with a loss of over 80 dB, implying an inability to hear and understand normal speech even with amplification. (see deaf)

Psychological Test: An objective and standardized measure of a sample of behavior.

Psychologist: A person professionally trained in the clinical administration and interpretation of psychological tests.

Psychometric Instruments: Tools which measure correlative mental functioning of a cognitive, psychomotor, or affective nature purported to be important to specific job performance, utilizing abstract tasks, usually of a paper and pencil nature.

Referral Data: see Client Information.

Referral Source: That person or facility who refers a client for services. This includes, but is not limited to service agencies such as vocational rehabilitation, physicians, industry, insurance companies, employment agencies, community action groups, and potential clients themselves.

Reliability: The stability or consistency of a test in measuring whatever it measures. In testing, reliability is the consistency of scores obtained by the same person when retested with the identical test or with an equivalent form of the test.

Residual Hearing: The hearing still retained by a hearing-impaired individual.

Resource Tools: Available information that can be drawn upon to provide assistance and clarification, i.e., occupational information, job analysis, etc.

RID: Registry of Interpreters for the Deaf is a professional organization whose members are engaged in or have an interest in interpreting services for deaf persons. RID maintains a registry of certified interpreters, and, in many states provides interpreter referral services to assist individuals and agencies locate qualified interpreters as needed.

Sensori-Neural: Refers to hearing impairments caused by damage to the neural auditory structures of the inner ear. Generally an irreversible condition.

Sign Language: see Manual Communication.

Sheltered Workshop: Provides transitional and/or long-term employment in a controlled and protected working environment for those who are unable either to compete or to function in the open job market due to their handicap. Some sheltered workshops also provide vocational evaluation and work adjustment services.

Simulated Job Station: A work setting which has the following characteristics: (1) all aspects of a job (not limited to job tasks) or a work process are replicated as realistically as possible, (2) it does not necessarily require payment to the client, (3) the setting is controlled by the evaluator, and (4) it is located within the evaluation facility.

Situational Assessment: A clinical assessment method utilizing systematic observational techniques in established or created environments. Situational assessment includes but is not limited to

- Evaluation in a vocational training setting
- Job tryout
- On-the-job evaluation
- Production work evaluation
- Simulated job station
- Work samples

Simultaneous Method of Communication: Consists of using manual communication, fingerspelling, speech, speechreading, and residual hearing simultaneously in communication with deaf persons.

Situations as Tools: A performance modality, i.e., using a task to stimulate behavior for observation and measurement.

Staff Conferences (Staffing): Formal or informal conferences held by the staff working with a client to review progress of the individual, develop further plans, maintain integration and coordination in the client's programs, and make recommendations as to future action needed by and for the client.

Staffings: see Staff Conferences.

Standardization: A uniformity of procedures used in administering and scoring of a measuring instrument.

Stapedectomy: Middle ear surgical procedure for correction of otosclerosis (stapes fixation) by removal of the stapes.

Synthesizing: The process by which information from all resources is combined into a meaningful whole to achieve new approaches and directions.

Tools of Evaluation: All of the means and media with which the evaluator and the client carry out vocational evaluation.

Total Communication: Refers to a philosophy that upholds the right of each deaf individual to any and all communication modalities (e.g., hearing, speech, fingerspelling, simultaneous method) or systems.

Training Environment: Refers to the setting in which the emphasis is on the learning and acquisition of skills or competencies.

Validation: Statistical procedure (in test construction) for the independent determination of a test's validity by a (cross) validity check which uses the test with a different sample.

Validity: Indicates the degree to which a test actually measures what it purports to measure.

VEWAA: Vocational Evaluation and Work Adjustment Association is a division of the National Rehabilitation Association. It is a professional organization whose members are either engaged in or have an interest in vocational evaluation or work adjustment of the handicapped.

Vocation: A calling, what one does, grounded in interests, ability, needs and opportunities.

Vocational Assessment: Determination of the importance, size, or value of the strengths and limitations of an individual which facilitate or interfere with vocational outcomes and development of proposals for vocational service plans.

Vocational Evaluation:

- (1) The process of observing behaviors and interpreting them against some criterion;
- (2) The process of assessing what an individual does and how well he does it, i.e., his "calling" (grounded in interests, abilities, needs, and opportunities) against some criterion;

- (3) One function of a personalized service delivery system that obtains and synthesizes information pertinent to persons with vocational problems to assist them in identifying and planning (an) appropriate vocation(s);
- (4) A comprehensive process that systematically utilizes work, real or simulated, as the focal point for assessment and vocational exploration, the purpose of which is to assess individuals in vocational development. Vocational evaluation incorporates medical, psychological, social, vocational, educational, cultural, and economic data in the attainment of the goals of the evaluation process (Tenth Institute on Rehabilitation Services);
- (5) A specialized form of clinical assessment requiring a specialized technology and environment, requiring a period of several days or even weeks of close observation and judgement, characterized by the use of real or simulated work tasks and activities in a situation which simulates some of the demands of work environments.

Vocational Evaluation Program: An organized and comprehensive service, staffed by specialists who systematically and comprehensively utilize work activities (real or simulated) and/or educational services as the focal point for educational and vocational assessment and exploration. In addition, psychological testing, counseling, social summaries, occupational information, etc., are other evaluation tools used. It incorporates medical, psychological, social, vocational, educational, cultural, and economic data for the establishment and attainment of individual goals.

Vocational Evaluation Program Manager (Case Manager): That professional person who is responsible for the entire evaluation program of an individual client. This includes reviewing all referral information, orientation of the client, scheduling services, planning his program, maintaining integration and coordination in his program, maintaining a written case record, holding formal and informal conferences as appropriate, making the termination decision, preparing the final report, and ensuring case follow-up.

Vocational Evaluation Report: A logical, well planned, carefully written means of communicating vital vocational information about a client. It is a studied, permanent record of significant vocational data observed as a client and an evaluator interact in various types of work or work-like situations. It puts the plan, action, findings, logic, and interpretation of the evaluation in writing. It usually includes a picture of the client's worker traits and how they compare to minimal requirements of selected jobs or work areas, physical capacities, learning ability, personal characteristics, social competence, other vocational factors, and a recommendation for further services.

Vocational Evaluation Unit (Department): The staff, plant, and equipment necessary to carry out a vocational evaluation program.

Vocational Evaluator: The individual staff member responsible for carrying out a vocational evaluation.

Vocational Rehabilitation: A process directed at restoring the handicapped individual to the fullest physical, mental, social, vocational, and economic adjustment of which he is capable.

Work Adjustment: An individualized, structured and planned, closely supervised, remedial work experience, designed to promote the acquisition of good work habits, to increase physical and emotional tolerance for work activity and interpersonal relationships, and to modify attitudes and behavior which inhibit the satisfactory performance of work.

Work Families: see Job Clusters.

Worker Trait: The requirements made of the worker in terms of aptitudes, general educational development, vocational preparation, physical demands, and personal traits. These are reflected in: training time, aptitudes, temperaments, interest, physical demands, and environmental conditions.

Work Sample: A well defined work activity involving tasks, materials, and tools which are identical or similar to those in an actual job or cluster of jobs. It is used to assess an individual's vocational aptitude, worker characteristics, and vocational interests.

- a. Incigenous Work Samples - Represent the essential factors of an occupation as it presently exists in one community.
- b. Job Sample - Those work samples that in their entirety are replicated directly from industry and include the equipment, tools, raw materials, exact procedures, and work standards of the job.
- c. Simulated Work Sample - Work samples which attempt to replicate a segment of the essential work related factors and tools of a job as it is performed in industry.
- d. Single Trait Work Sample - Assesses a single worker trait or characteristic. It may have relevance to a specific job or many jobs, but it is intended to assess a single isolated factor.
- e. Cluster Trait Work Sample - A single work sample developed to assess a group of worker traits. Contains a number of traits inherent in a job or a variety of jobs. Based upon an analysis of an occupational grouping and the traits necessary for successful performance therein, it is intended to assess the client's potential to perform various jobs.

Work Sample Norms: Specified standards that enable an evaluator to compare a client's performance on a work sample with meaningful criteria, e.g., industrial workers, performance for workshop, local or national standards.

Work Sample Normed in Industrial Setting: Derived from the aggregate work sample scores of a specified employed population.

Work Sample Standards: The rules for the constructing, administering, scoring, and interpreting of work samples in accordance with some established model.

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